

THE DEVELOPMENT OF A CULTURAL IDENTITY IN COLONIAL AMERICA:
THE SPANISH-AMERICAN EXPERIENCE IN LA FLORIDA

By

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The primary purpose of this study is to contribute to and refine a general understanding of the forces involved in the emergence of unique European-American cultural traditions in the Atlantic world. This is accomplished through a multi-disciplinary historical-archaeological approach, and by a comparative assessment of the processes associated with the development of a cultural identity in the Spanish and Anglo-American colonies of the Atlantic world. In particular, this study emphasizes the choices made the European-American colonists during the seventeenth century.

Archaeological and historical data from the Spanish colony of St. Augustine and the British colonies of the Chesapeake were used to organize this comparison. The results of this research indicate that remarkable similarities existed

in the ways in which European-American colonists adjusted to the Americas. In both colonial situations, the colonists made choices that recognized local realities and emphasized the use of and reliance on American goods and resources. These choices, which were limited by environmental constraints, also led to a growing separation from their homeland and an increasingly local and regional orientation. The archaeological evidence indicates that although the general process of European-American adjustment and identity development followed the same path in the Spanish and Anglo colonies, the specific manifestations of this process were different.

CHAPTER 1

THE QUESTION OF COLONIAL CULTURAL DEVELOPMENT

One of the most profound consequences of the European exploration and settlement of the Americas was the development of distinctive European-American cultural traditions (Hartz 1964). The nature, timing, and outcome of this development process varied between (and possibly within) colonial areas dominated by different European nations and resulted in the varied mosaic of American society today. The character and effects of these developments define the primary focus of this study, which is to contribute to and refine a general understanding of the processes involved in the emergence of unique European-American cultural traditions in the Atlantic World. The Spanish colonial experience of the late sixteenth and seventeenth centuries will be used to provide a case study of these processes during the critical "middle" era between initial encounters and the emergence of a well established colonial identity.

The middle period is generally regarded as a formative period in the development of colonial American society because of a number of demographic, economic, and social changes that occurred and led to the growth of internationalization of the Americas (Handlin 1967:97; Leonard 1959:viii; see Chapter 2).

It also represented a time when the colonists made choices about the retention and change of both European and American traits and traditions and devised new syncretic solutions to cope with the special circumstances of life in the post-Columbian Americas.

This period of Spanish colonial social development will be studied and characterized through a multi-disciplinary historical-archaeological approach and by a comparative assessment of general Spanish patterns with those associated with Anglo-American colonies during a comparable period. An understanding of both the range of choices made within colonial society, and the consistencies and differences across societal boundaries can contribute to a more comprehensive model of post-contact cultural development in the Americas.

The Problem of the "Middle" Period

It is generally accepted that the initial years of contact and settlement witnessed cataclysmic change as a European world came into contact with radically different Native American cultural systems and an unfamiliar natural environment. Since the beginning of European colonization of the Americas in 1492, scholars have been fascinated by the impact of this momentous intermingling of Europe and the Americas. Consequently, a profusion of research exists concerning the nature of European expansion into the Atlantic world during the fifteenth through eighteenth centuries. Much

of the work regarding the European colonization of the Americas focuses on the sometimes fantastic initial adventures of the European explorers, the demise of the native populations, and the European political and economic institutions of colonization. Somewhat less attention has been directed to understanding the emergence of European-American colonial societies (Deagan 1985; Deetz 1977; Greene 1984; McAlister 1984). These latter efforts have tended to concentrate on either the initial encounter or established colonial society (Falk 1991; Thomas 1989, 1990, 1991), leaving much of the immediate post-contact period of adjustment ignored. This is particularly true from the perspective of Spanish colonial archaeology.

In contrast to the rather exciting and somewhat colorful exploits that took place during the initial period of colonization, the middle period of Spanish settlement was not a time of world changing events. The experimental and conquest phase of colonization had drawn to an end, effective adaptations had been worked out, and basic cultural patterns had already been established (Handlin 1967, King 1984, Lockhart and Schwartz 1983). Consequently, Spanish America during the late sixteenth and seventeenth centuries has often been characterized as an "inwardly pulsating" time of relative stability and embellishment of pre-existing patterns (Leonard 1959:viii). A general consensus exists among historians that this period of Spanish-American cultural development was one

in which the basic framework or pattern established during the initial years of settlement was expanded and became more elaborate.

What remains unclear, however, are the processes and their associated archaeological patterns which characterized that stage of Spanish colonial cultural development between initial settlement and established society. Using archaeological and historical data from Spanish colonial St. Augustine, Florida, this study will evaluate the nature of change in Spanish colonial culture during the middle period of settlement, and compare it to what is known of similar processes in British-American colonies of a comparable period.

St. Augustine is a particularly appropriate colonial setting for investigating the forces involved in the transformation of European cultures (in this case, Spanish) into European-American traditions for two reasons. Its almost two hundred years of continuous Spanish occupation--beginning in 1565 and ending in 1763--provide the essential temporal control for tracing change through time. In addition, an extensive comparative archaeological (Deagan 1983, 1985) and historical (Lyon 1983; Waterbury 1983; TePaske 1964, 1975) data base relevant to the sixteenth and eighteenth century occupations exists from which to assess change during the late sixteenth and seventeenth centuries.

Historical archaeology stands in a position to investigate cultural development in the Atlantic World because

of its multi-disciplinary perspective and "access to multiple categories" (Deagan 1988:7) and contexts of data (Schuyler 1977). The use and application of these "multiple categories" - in this case, the historical, archaeobiological, and archaeological records - allow for a more complete understanding of the nature of cultural development during the late sixteenth and seventeenth centuries than either perspective alone can render. The multi-disciplinary perspective of historical archaeology assumes a particularly significant role in this study because of the unexplored and, at times, "lost" nature of the seventeenth-century documentary record in St. Augustine, and because of its access to a comparatively sizeable archaeological data base. Perhaps more importantly though, historical archaeology also provides a glimpse into "everyday life" and the behavior and lives of the common people who represented an essential component of colonial society.

Previous Research into the Nature of European-American Cultural Development

Spain, Portugal, England, Scotland, Sweden, Denmark, France, and Holland all established settlements in the Atlantic world, but Spain and England comprised the dominant presence (Canny and Pagden 1989; Hartz 1964; Karras and McNeill 1992). Consequently, the most prolific historical and archaeological research on colonial topics to date has focused on the British and Spanish-American experiences (for recent

summaries and reviews of this work see Greene 1991; Kicza 1974; Weber 1992; Thomas 1989, 1990, 1991). As noted above, the majority of this research addresses either the immediate environmental, social, and political adjustments made by the colonists during the initial years of colonization or focuses on the already-established eighteenth century colonial world.

Those studies that deal with cultural development during the middle period have focused on the British colonial experience (Deetz 1977; Greene 1988; Miller and King 1988) or they have approached this issue from an exclusively historical perspective (Boyer 1977; Bushnell 1981; Leonard 1959). With the exception of research in the Spanish missions (McEwan 1993), which represented a specialized segment of the Spanish world, relatively few of the studies concerned with the formation of a Spanish-American tradition have been archaeological in nature (Deagan 1983, 1985, 1994; Ewen 1991). Those that have addressed the nature of Spanish colonial culture have focused only on the sixteenth century. Only one previous endeavor (King 1981), conducted over a decade ago, explored Spanish colonial culture during the middle period from the multi-disciplinary perspective and integrative approach of historical archaeology.

Julie King's preliminary research into the nature of change formed a critical baseline of information regarding the seventeenth-century material world, and it also suggested important links between ceramic variability, Native American

population movements, and changing economic patterns. As such, King's research represents a notable contribution to understanding patterns of Spanish adaptation in Florida. However, it did not encompass the entire middle period and was limited by the then-available data base of only three seventeenth-century occupation sites in St. Augustine. In addition, King's Florida-specific focus did not include St. Augustine's participation in a larger Atlantic world, and did not place seventeenth-century St. Augustine within a model of colonial cultural development.

In the twelve years that have passed since the completion of King's research, additional seventeenth-century sites have been excavated, and Spanish colonial archaeology has been increasingly cast in a global perspective. In light of these considerations, the following chapters will re-evaluate and expand our knowledge of this critical period of settlement by incorporating these "newer" contexts with those included in Julie King's earlier work, and by placing seventeenth-century St. Augustine within the context of both the middle period and the larger American colonial world.

Researchers investigating the development of European-American colonial culture have attempted to identify the factors that led to a growing independence from their parent countries, and the emergence of distinct regional colonial identities. Factors suggested as being particularly influential in the development of regional colonial cultures

include: country of origin, economic organization, the demographic composition of the colony, the structure and degree of interaction between the Native American, African, and European peoples, and the religious traditions of the European colonists (Greene 1988; 1991; Meinig 1986). Because these aspects have been studied and documented for a wide sample of colonial societies, and incorporate both material and ideological aspects of adaptation, they will be used to organize a comparison between the Spanish and British colonial experiences in the Atlantic world.

Chapter 2 will consider the historical and social contexts of the colonial Atlantic world that provide the general cultural milieu in which the developments of the middle period occurred. Particular emphasis will be placed on the character of Spanish and English settlement as the dominant presence in the colonial Atlantic world. Chapter 3 reviews the existing models of Anglo and Spanish-American colonial cultural development as a basis for understanding the development of distinctive European-American traditions in the Americas. Chapter 4, examines the specific economic, demographic, social and religious circumstances of the middle period in St. Augustine, and provides a setting for interpreting the archaeological record. Chapter 5 outlines the specific strategy and methods used to explore the nature of cultural development, and Chapter 6 defines the seventeenth-century archaeological assemblage associated with St.

Augustine. The final chapter, Chapter 7, assesses the immediate post contact period of development in St. Augustine, and compares it to a similar period in the British colonies.

CHAPTER 2

THE COLONIAL ATLANTIC WORLD DURING THE MIDDLE PERIOD

The middle period cannot be understood without some reference to the political, social, and economic circumstances that both preceded and characterized it. Shortly after the initial Columbian voyage to the West Indies, a series of papal bulls granted dominion of the Indies to the Crown of Castile. These bulls, along with the subsequent Treaty of Tordesilla, constituted Spain's legal claim to the lands and resources of the Americas (Parry and Sherlock 1971:6-7).

Spain's interest in the Americas was fueled, in part, by the mercantile policy that prevailed in Spain and throughout Europe (Braudel 1979:544). This policy, in which the economic interests of the metropolis as a whole were more important than those of its individual parts, placed great value on and defined wealth by the accumulation of precious metals (Braudel 1979:544; Gibson 1966:105). To protect Spain's economic interests, the colonies were permitted to import from and export to Spain alone (Andrews 1978:70). Beginning in the fifteenth century, Spain established colonies with the intent of exploiting the natural and mineral wealth of the Americas.

Silver, in particular, represented an important commodity (Hamilton 1970), and for almost 100 years Spain maintained a commercial and territorial monopoly in the Americas.

Economic and Political Challenges to Spain's Atlantic World

This monopoly was challenged throughout the sixteenth century as northern European powers recognized the economic importance of the Indies and struggled to secure their share of its natural wealth (Hoffman 1980; Lang 1975). In order to obtain a portion of the wealth emanating from the mineral resources of the Americas, England, Holland, and France had to break Spain's economic and territorial monopoly. One of the methods used to accomplish this goal included the sanctioning of raids on Spanish ships and settlements by the northern European governments. Contracts, called letters of marque, were negotiated with individuals, and allowed them legally to attack and take goods in return for the payment of a fee to the respective Crowns. English and French privateers and pirates targeted Spain's treasure ships and attacked, looted, and burned coastal ports and settlements throughout the Caribbean (Lang 1975:105).

In response, Spain initiated the fleet system, which consisted of two convoys of ships sailing twice a year between Europe and the Americas, and constructed fortifications in the principal harbors along the route (Andrews 1978:66,155; Bourne 1904:284). During the late sixteenth century, fortifications

were established in Havana, Cartagena, Santo Domingo, Santiago de Cuba, San Juan de Puerto Rico and St. Augustine, Florida (Hoffman 1980:144; Parry and Sherlock 1971:36). The settlement of Florida in 1565 strengthened Spain's territorial interests in the Indies, and, at least until 1670, effectively prevented French and English settlement along the coast of Florida (Lyon 1983:55).

Although this defensive plan did protect the treasure fleets, it did little if anything, to halt the raids on towns and local shipping in the Caribbean. Especially hard hit were remote and isolated regions outside the boundaries of the treasure fleet's shipping lanes, such as St. Augustine and Puerto Real (Deagan 1994; Parry and Sherlock 1971:37-38). English pirates, such as Sir Francis Drake and John Hawkins, burned and looted coastal ports and settlements throughout the Indies, seized the silver convoys, stole from the treasury, and forced the settlers to engage in rescate, a form of illegal trade transaction (Andrews 1978:74-80,258; Lynch 1984:191; McAlister 1984:91).

One of the most infamous raids took place during 1585 and 1586 when Drake systematically attacked the major seaports and land bases associated with the treasure routes, including Santo Domingo, Cartagena, Nombre de Dios and Havana. The town and fortifications of St. Augustine, built to ensure safe passage of the fleets through the Florida Straits, were burned, sacked, and destroyed on Drake's return voyage to

England (Parry and Sherlock 1971:42). Additional acts of piracy occurred throughout the seventeenth century and as a result Spanish towns, including St. Augustine, suffered economically. In 1627, Piet Heyn, an admiral in the Dutch West India Company, captured the entire Fleet of the Indies off Matanzas Bay (Parry and Sherlock 1971:50). The fleet carried treasure and the subsidies (situados) intended for St. Augustine and other Caribbean settlements (Bushnell 1983:48). Another particularly disastrous attack on St. Augustine took place in 1668 by the English pirate, Robert Searles. In that raid, 60 townspeople were killed and the town looted. A small band of English pirates threatened the town again in 1683 and another group attacked in 1685 (Waterbury 1983:59).

The success of piracy, along with the establishment in 1607 of the Virginia Colony along the eastern coast of North America, weakened Spain's hold on the Indies and allowed England, France and Holland to slowly gain a foothold on the mainland, and then in the island communities of the Lesser Antilles (Bailyn 1967:262; Sauer 1980; Watts 1987:127). During the seventeenth century, the French settled Quebec (1608); the Dutch explored the Hudson Bay region (1609), established Fort Orange (1614), and settled New York (1620); a small group of Swedes and Finns settled the Delaware River Valley in Southeastern Pennsylvania (1638); and the English founded Bermuda (1612) and the Plymouth Colony (1620), chartered the Massachusetts Bay Colony in New England (1629), established

Charles Towne, South Carolina (1670), and settled Pennsylvania (1681). Gradually, throughout the 1600s, Spain's hold over the Indies eroded and the Americas became a "mosaic" (Axtell 1992:218) of various European settlements (Table 1; Figure 1).

Economic Problems in Spain and the Atlantic

The seventeenth century is often characterized as a time of economic crisis in Spain (Hamilton 1970). This is suggested to have been the result of a reduction in silver imports, soaring naval expenses, an eroding power base in the Indies, warfare in Europe, and an ever-increasing need to protect Spain's territories in the Caribbean against the growing northern European threat in the form of both settlement and piracy. Throughout the late sixteenth century and the early years of the 1600s, Spain had become increasingly dependent on silver from the mines in Peru and Mexico to meet expenses at home, and to finance Phillip II's military and naval expenditures in both Spain and in the Indies (Hamilton 1970; Haring 1947; Sauer 1966). These war expenses were a result of conflict between Spain and the Protestant countries of France, England, and the Netherlands. They escalated in 1621 when the truce with the Dutch expired and the Netherlands mounted an aggressive campaign for territorial and economic power in the Indies. International conflict in the form of piracy, illegal trade, and the establishment of northern European colonies in the Indies escalated during the period between ca. 1620 and

Table 1. Chronology of Key Events in the Seventeenth-Century Atlantic World

| | |
|------------|---|
| 1605: | Spain ordered settlers in Puerto Plata, Monte Cristi and Yaguana to move to the south coast in attempt to stop smuggling. |
| 1607: | England settled Jamestown. |
| 1608: | Company of New France established base in Quebec |
| 1609: | Netherlands explored Hudson Bay. |
| 1612: | England settled Bermuda. |
| 1614: | Netherlands established Fort Orange, Fort Nassua in Albany. |
| 1620: | Plymouth Colony established by England. |
| 1621: | Dutch West India Company chartered; Spain's truce with Netherlands expired. |
| 1624: | England settled St. Kitts and Barbados; Dutch seized Bahía in Brazil, but repelled by Spanish; New Amsterdam established. |
| 1625: | England and Netherlands settled St. Croix. |
| 1628: | England settled Nevis. |
| 1629: | Massachusetts Bay Company chartered. |
| 1632: | England settled Antigua and Montserrat |
| 1631: | Spain prohibits trade between Mexico and Peru. |
| 1632: | France gained control of Acadia. |
| 1634: | Dutch seized Curacao. |
| 1635: | France settled Guadeloupe and Martinique. |
| 1640: | Portugal seceded from Spain; Battle of Itamaraca between Spain and Portugal fought off coast of Brazil. |
| 1648: | Spain's 80 year war with Dutch ended; Treaty of Munster recognized Dutch title to Curacao, St. Martin, Saba, and St. Eustatius, but trade between Dutch and Spanish Indies forbidden. |
| 1652: | Dutch-English war began. |
| 1655: | English attempted to seize Española and captured Jamaica; English loggers established themselves around Belize. |
| 1660: | Acts of Trade and Navigation limited export of sugar, tobacco, cotton, indigo, ginger, or dry goods to England or English colonies only. |
| 1665: | France seized control of the island of Tortuga. |
| 1667: | Treaty of Breda ended Second Dutch War. |
| 1670: | Anglo-Spanish Treat of Madrid recognized English title to territories in the Indies; Charles Towne established. |
| 1672-1678: | England and France joined forces against the Dutch in the Third Dutch War. |
| 1697: | Treaty of Ryswyck ceded western half of Española to French who called it St. Domingue Twelve Years |

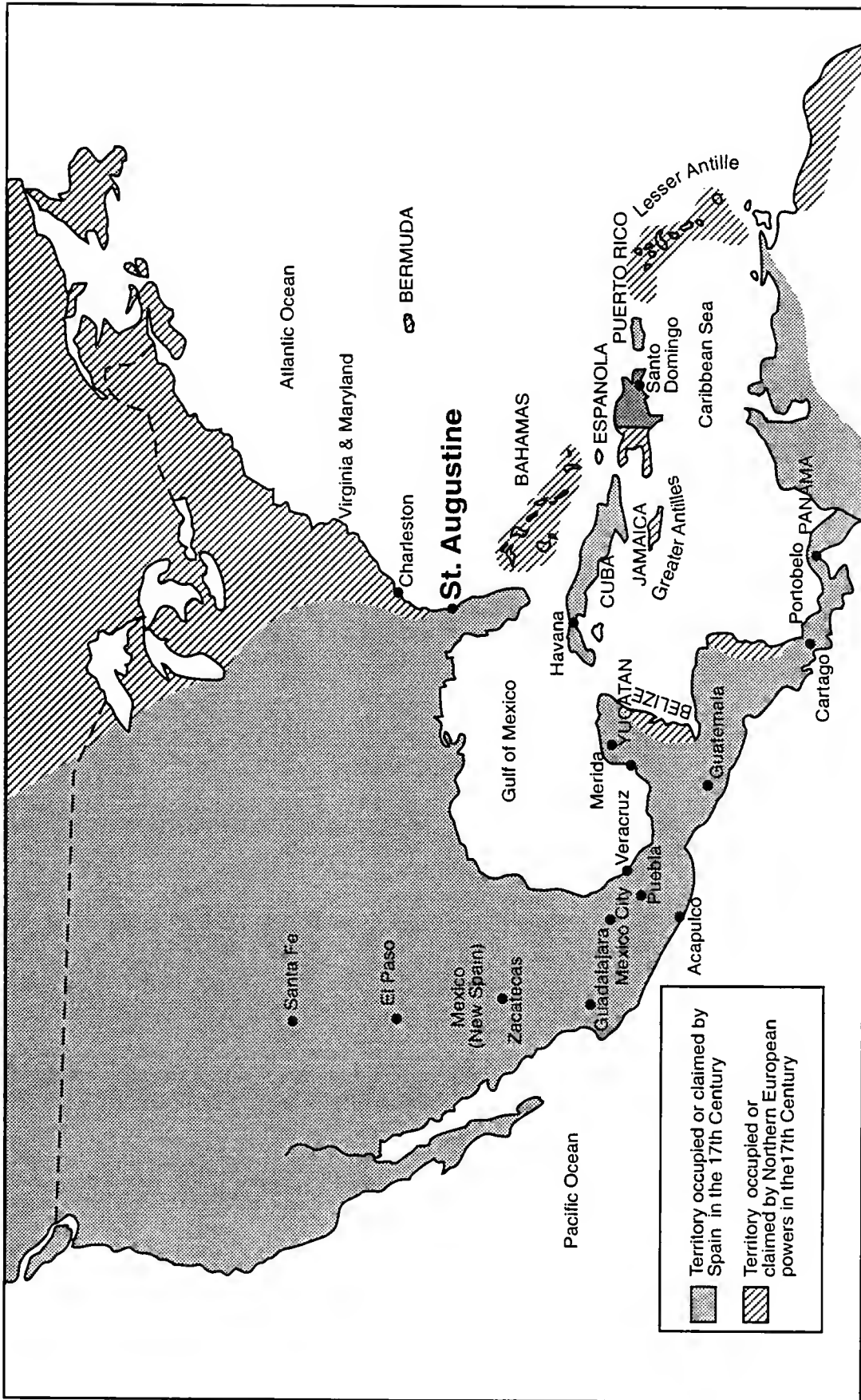


Figure 1. St. Augustine and the Colonial World in the 17th Century

the 1650s, and Spain was faced with an ever increasing need to protect the Caribbean against this growing threat (Elliott 1987:104; Goslinga 1971; Haring 1966).

The decline in silver exports to Spain contributed not only to a continual shortage of silver, but it also fueled an inflation and the devaluation of Spanish currency (Davis 1973:145). Silver and silver coinage was a major export product, and Spain had become dependent on American silver to finance military operations (Hamilton 1970:44-45). Because of these rising debts, inflation, and exploding defense expenses, Spain was often unable to provide basic commodities and supplies, such as oil, flour, and wine, to the colonies (Andrews 1978:57). Several of Spain's circum-Caribbean colonies, such as St. Augustine, Florida were military settlements dependent on a regular annual royal subsidy called the situado. They often received little financial support during the 1600s and were forced to look elsewhere for their financial and subsistence needs (Bushnell 1981; Sluiter 1985).

These problems with the arrival and payment of the situado can be related to several factors, not the least of which was Spain's dwindling power in the emerging world system (Elliott 1987, 1989; Lang 1975; Parry and Sherlock 1971; Wallerstein 1974, 1980). The unreliability of the situado in the mid-seventeenth century corresponded with economic and political problems in both Spain and the Atlantic world. Mexico, the audiencia or regional court responsible for the

Florida situado, also faced economic and political problems, which precluded timely payments of the subsidy. With the renewal of global war between Spain and the Netherlands in 1621, the powerful Dutch West Indies and East Indies companies mounted an offensive naval campaign against Spain. Their presence in the Atlantic and the Pacific greatly disrupted both the Indies and the Manila galleon trade. Dutch corsairs threatened and attacked shipping and coastal communities, and their presence in the Atlantic helped open the area to settlement by other European powers. These assaults by the Dutch brought hardship to the merchants of Mexico City, which were only compounded by Spain's prohibition of trade between Mexico and Peru in 1648. Natural disasters, such as a major flood in 1629 (Boyer 1977:477) and heavy livestock mortality, also contributed to Mexico's economic problems (Elliott 1987:103).

However, more central to Mexico's problems, in terms of long-term economic impact, was the drop in silver production from the mines in both Mexico and Peru. Various arguments attribute this decline to labor shortages resulting from a decreasing Indian population (Borah 1951:5; MacLeod 1973:375-376, 1987:315-360), problems with credit (Bakewell 1975), the depletion of major silver deposits (Elliott 1987), or a shortage of mercury, an essential element in the mining process (Bakewell 1975:20). All of these factors probably contributed to Mexico's economic woes, but whatever the

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ultimate causes were, the result was a decline in the trans-Atlantic and the Manila trade. Consequently, the smaller and less economically important colonies, such as St. Augustine, received less financial support from the Spanish Crown and were forced to become more self-sufficient and reliant on local resources or goods imported from other regions of the Atlantic world in order to meet their needs. Consequently, the economic relationship between Spain and her American colonies began to weaken during this time and new patterns of intercolonial trade and local economies developed (Elliott 1987:95).

The Growth of Intercolonial Trade in the Atlantic

Concomitant with Spain's inability and frequent unwillingness to send provisions to the Americas, was an emerging inter-colonial trade network and the establishment of colonial economies (Lang 1975:54). Trade restrictions, piracy, profiteering, and Spain's dwindling power acted as a stimulus for an increase in trade among the various European colonies during the seventeenth century (Elliott 1987:107; Lang 1975:54; Lockhart and Schwartz 1983:153), and it has been suggested that the colonies were growing less dependent on both Europe and the Native American population for provisions and supplies (Borah 1951:21; McAlister 1984:375). Not all of this trade was legal. The historical record documents the existence of widespread smuggling operations, despite strict

regulations prohibiting it (Lang 1975:156-161; Parry and Sherlock 1971). Colonial merchants in New England shipped fish, lumber, and tobacco to other British colonies and traded with France, Holland, Spain and their colonies in the Indies (Lang 1975: 156-161). Dutch salt ships to the Venezuelan coast carried European goods which were sold in the Indies in exchange for hides, tobacco, and dyewoods (Parry and Sherlock 1971:46-48; Sluiter 1948:178-180).

In Spanish America, much of the silver from the great mines of Zacatecas and Potosí never reached its intended European market. Instead it went to the Pacific (Elliott 1987:97) where it was used to purchase silk, satin, porcelain, spices, perfume, and jewelry (Lynch 1984:245). These goods arrived in Acapulco, via the Manila trade, then went overland to Veracruz for export. Peru was forbidden direct access to Asia, so Mexico became the entrepot for the re-exportation of Asian goods to Peru (Lynch 1984:245). The Crown tried unsuccessfully to stop this intercolonial trade in 1631 by prohibiting trade between Mexico and Peru (Elliott 1987:97), but this met with only limited success. As a result, much of the silver produced in the Spanish colonies remained in the Americas and never reached the European market (Elliott 1987; Lang 1975; Lynch 1984).

Intercolonial or "coastwise trade" (McCusker and Menard 1985:78) in the English colonies began shortly after initial settlement and increased throughout the seventeenth century.

Initially, trade between the various British colonies was allowed as long as it was conducted by subjects of the British crown (Lang 1975:152). However, as English settlement in the Atlantic expanded and colonial agricultural production increased, the Crown attempted to limit coastwise trade with the passage of the Navigation Acts of 1660, 1663, and 1673 (Table 1). These acts not only prohibited trade with the other European colonies, but they also banned trade in certain important colonial agricultural products, such as dyewoods, sugar, tobacco, and cotton (Lang 1975:153). England, like Spain, operated under a trade policy that attempted to channel all American raw materials through ports in England. The colonies were to supply the metropolis with raw materials -- agricultural products in the case of England and silver in the case of Spain -- which then acted as an entrepot for the distribution of manufactured goods to their respective colonies. However, Europe's inability to meet colonial demands grew during the seventeenth century, and colonial trade networks expanded and commercial agricultural endeavors also intensified.

A measure of the emergence of colonial economies was the development of local enterprises and production. Some examples include the creation of mints in New Spain and Hispaniola (Deagan 1987:24), the development of a fishing and whaling industry in the New England colonies (Baker 1985; McCusker and Menard 1985), and the establishment of

shipbuilding operations in many coastal settlements of both British and Spanish America (McCusker and Menard 1985; McAlister 1984:366-367). In addition, iron forges and blacksmith shops were established in several, if not most, Atlantic communities in order to produce weaponry, tack, and construction hardware, such as hinges, spikes, nails, staples, and screws for local use (Deagan 1987:24; Hudson 1980:22-26).

Glasshouses and pottery works were also established in the Atlantic colonies. The type and amount of glass produced, and the success of the seventeenth-century ventures in glass making in the British colonies, such as those at Jamestown, Salem, and Philadelphia remains uncertain (Noël Hume 1969, 1970; Spillman 1976). Considerably more is known about glassmaking in the Spanish colonies. The documents note the presence of glassblowers and glass furnaces in Puebla de los Ángeles as early as 1542 (Toussaint 1967:270). By 1547, glass produced in Puebla was being exported to Guatemala, Peru, and possibly other regions of Spanish America. Puebla remained the center of the glass industry throughout the late sixteenth and seventeenth centuries (Frothingham 1963:58; Toussaint 1967:270). At least three known classes of glass were produced in the glasshouses of Puebla: "white crystal," "green glass," and "blue glass" (Toussaint 1967:270).

Lead-glazed and coarse earthenwares were being produced by potters in the Virginia colony by the mid-seventeenth century (Noël Hume 1970:212-213; Spargo 1974:61), and there

were probably potteries in other colonial regions. A "white and Chiney ware" was manufactured at a pottery near modern day Burlington, New Jersey, at least as early as 1684 (Spargo 1974:55,59). This pottery, which has been identified as a possible white salt-glazed stoneware, was produced for export to Barbados and Jamaica (Spargo 1974:59).

Although unglazed pottery was produced in the Spanish colonies as early as 1493 (Cruxent 1990; Deagan and Cruxent 1993), pottery making became specialized in the 1500s, and important centers of production emerged (Barnes 1980; Deagan 1987; Lister and Lister 1982). The most notable centers were Mexico City and Puebla (Lister and Lister 1974, 1987), both of which produced majolicas, and possibly unglazed and lead-glazed coarse earthenwares, that were exported widely to other Spanish colonies, including St. Augustine, by the late sixteenth century (Deagan 1987).

By the early 1600s, obrajes or textile workshops in New Spain supplied cloth to the Indies (McAlister 1984:367). Wineries and olive orchards in Peru produced sufficient quantities of wine and oil for export to other regions of New Spain (McAlister 1984:364; Smith 1991). Haciendas in Mexico, Peru and Colombia were supplying major areas of Spanish America with staples such as wheat, potatoes, maize, cattle and pigs (MacLeod 1987:348). By the end of the century, British plantations in the Chesapeake, the Carolinas, and the West Indies were growing tobacco, sugar, rice, and cotton for

a growing export trade both within the Atlantic and with Europe (McCusker and Menard 1985).

The Demographic Character and Social Interactions of the
Colonial Atlantic World

European settlement of the Atlantic world represented the catalyst for the meeting of three distinct groups of people - Europeans, Native Americans and Africans. The forms of interaction among these different groups of people played a critical role in the development of colonial culture. Patterns of interaction varied and were influenced by a number of factors. These included the immigration policy of the European power (Haring 1947: 29-35), the economic base and religious background of the European colony (McAlister 1984:334-345), the settlement patterns and density of the Native Americans (Gibson 1966:113-115; Fitzhugh 1985), and attitudes about racial mixture (Breen 1984:198; Mörner 1967). In the case of Spain, these attitudes were shaped, in part, by the 700-year occupation of Spain by the Moors, and the coexistence during that period of multiple ethnic, religious, racial, and cultural groups.

It is also important to note that much of the Native American population of the Atlantic World had already experienced the devastating effects of disease by the time of British settlement of the Atlantic World during the 1600s. (Axtell 1981:248-249; Crosby 1972:35-42; Ramenofsky 1987:173-176). For example, the Taino of Hispaniola had all but

disappeared by 1548 (Crosby 1972:45). Disease contributed to the demise of most of the native population of the Antilles (Crosby 1972:38), and many of the Indians of what is today known as the coastal southeastern United States succumbed to epidemics during the sixteenth century and seventeenth centuries (Milner 1980:44). It has also been suggested that pandemics swept the Americas during the 1500s (Dobyns 1983).

Population and Interaction in Spanish America

Spanish immigration policy "formally excluded" non-Iberians and Non-Catholics. Although Jews and other ethnic groups, such as Asians, existed in the Spanish colonies, they did not comprise a significant proportion of the population (McAlister 1984:338). Spanish policy also favored single males and it has been estimated that "probably 90%" of the migrants to the Americas consisted of men (Gibson 1966: 112-113). Wives and other female relatives were encouraged to emigrate to the colonies with their male sponsors, but single women often had difficulty obtaining the required licenses or raising the money to pay for the passage. Although a few women travelled alone, either to join their husbands or as servants, most came with their husbands, parents, or other family members (McAlister 1984:97-98). Consequently, single European women were rare and families that included an Iberian woman probably gained prestige and status (Boxer 1975:38; McEwan n.d.:3).

In general, Spanish settlement was concentrated in those areas of the Atlantic World with dense Native American populations. Interaction with the Indians was structured by formal policies designed to apply Christian principles to their governance, and to fulfill the economic motives for settlement (Deagan 1985:282). This was due, in part, to the need for a large labor pool to work in the mines and in various agricultural endeavors, and the evangelical motive for settlement. Consequently, the primary spheres of formal interaction between the Spaniards and Indians included religious missions and economic arrangements.

Conversion of the native peoples was an integral part of the colonization process. Large-scale mission efforts began in the 1520s in Mexico (Gibson 1987:376) and continued into the seventeenth century. The structure of the mission system involved the "reduction" of the native population to permanent settlements overseen by a resident or visiting friar, who conducted religious services, offered instruction in basic Catholic dogma and ritual, and managed any farming or business ventures conducted at the mission settlement. Because of their location on the frontier or on the outskirts of Spanish towns, the missions provided only limited opportunities for interaction between the colonists and Indians.

Secular, economic arrangements offered more chances for interaction between a larger proportion of the Spanish population and the Native Americans. These arrangements were

primarily structured through the encomienda-repartimiento system, which was formally established in the West Indies during the early years of the sixteenth century (Gibson 1987:366). The encomienda was a system that granted Spanish colonists jurisdiction over a particular region, and "gave" them grants of native labor or tribute. In exchange, the Indians received protection and religious instruction. Although the encomienda survived until the end of the colonial period in some regions of Spanish America (MacLeod 1987:321), in the Caribbean, it gradually gave way to the repartimiento or labor draft.

The repartimiento consisted of a paid labor draft in which healthy, male Indians were obligated to provide labor or services to the Spanish officials. Those chosen to serve in the labor draft travelled from their villages to work on assigned projects in specific places, and for a specified amount of time. Most of these obligatory assignments involved public works projects, such as the construction of forts and monasteries or agricultural chores, considered vital to the welfare of the colony (MacLeod 1987:321).

As the native American population dwindled from the ravages of disease, African slaves were brought into parts of Spanish America, primarily to the tropical coastal regions of the Antilles, to replace the native laborers (Klein 1986:25-37). In the colonies, the primary mode of interaction among Spaniards and Africans was therefore economic, and took the

form of slavery and various other labor arrangements. Unlike the Native Americans with whom Spain had no experience, Africans had been a part of Spanish society for centuries and their presence in Spain probably dates back to at least the eleventh century (Mörner 1967:16). Some Africans were enslaved, while others served as soldiers and couriers in the Moslem armies and intermarried with the people of southern Spain. As a result, a system of dealing with Africans and slavery had long been established by the time America was colonized. Slavery was rationalized by the concept of a "just war" which meant that Spain was justified in enslaving those Africans who rejected Spain's attempts to convert them to Christianity. There was also a legal code that protected them from cruel masters, prohibited the separation of family members, and gave them the right to hold and transfer property and initiate lawsuits. But, despite these legal rights, Africans were still viewed as inferior in Spain and in the colonies (Landers 1990:315-328).

A third and informal arena of interaction included intermarriage and concubinage. Miscegenation among the Spaniards and Native Americans and Africans began in the early years of settlement and continued throughout the seventeenth century (Gibson 1966:115). Although encouraged in the initial years of settlement as a means of political alliance (Mörner 1967), by the seventeenth century, the Crown attempted to prohibit intermarriage and enforce rigid segregation policies.

Despite these efforts, Spanish, Indian, and African intermarriage and concubinage continued, and by the late sixteenth century, when Spanish settlement of the Indies was almost one hundred years old, a creole population had already emerged. The seventeenth century, therefore, witnessed the birth and maturation of the fourth through eighth generation of native-born colonists. Although some of these creoles represented the offspring of two parents of "pure" Iberian descent, many of the people identified as creole were in fact some combination of Spanish, Indian, and African (McAlister 1984:338-339; Mörner 1967).

The creole and racially mixed population increased through the seventeenth century and the specific "ethnic" character of the Spanish colonial world often exhibited regional variation (McAlister 1984:339). For instance, in those areas of the Atlantic World, such as the West Indies, where the Native American population died rapidly after contact with European diseases (Crosby 1972), the demographic character consisted of a Spanish minority and an African and mulatto (person of African and European heritage) majority (McAlister 1984:339,345).

By 1650, population estimates for the Antilles indicate a Spanish to African ratio of roughly 1:6, or 80,000 Spaniards and 514,000 Africans or Mulattos (McAlister 1984:344; Rosenblat 1954:1,59). In contrast, Africans and Mulattoes accounted for less than 2% of the mid-century population, in

places such as Mexico which had a large indigenous population (McAlister 1984:344). In presidios, such as Spanish Florida, where the Native American population was not completely decimated and whose military nature did not necessitate large numbers of African slaves, the creole population was more mestizo (person of Indian and European heritage) than mulatto in character (Bushnell 1983:55; Deagan 1973; Dunkle 1958:8). In general, the characteristic Spanish colony was Catholic, Iberian and predominantly male. It was also one in which Spaniards politically dominated Native Americans and Africans (Gibson 1966:112).

Whatever the specific ethnic heritage of the creoles was, these native-born Americans, unlike their parents, shared a "New" World upbringing. Most likely they also became increasingly aware of their separateness from Europe (Leonard 1959:x; Pagden 1989:51-94). During the seventeenth century in Spanish Florida, the creoles rose to positions of authority as evidenced by their securing of important treasury positions previously held only by those born in Spain, but they were still prohibited from holding the highest offices in colonial government (Bushnell 1981:31-36; Shephard 1983:68-69). Examples of first generation Anglo-Americans rising to positions of power have also been documented among the British colonists of the New England and Chesapeake Bay colonies (Jordan 1979:244).

Population and Interaction in Anglo-America

It is difficult to generalize about the demographic character of the European population of the Anglo-American colonial world except to note its "extraordinary demographic diversity" (McCusker and Menard 1985:235). Unlike Spain, England did not impose a restrictive immigration policy to their Atlantic colonies, and the European population exhibited more national and religious diversity than that found in the Spanish colonies. In addition, other Europeans, such as the French, Dutch, and Swedes, established communities adjacent to, and sometimes within various British-American colonies. The close proximity of these different communities, along with the diverse social and economic motivations for settlement contributed to the development of a "complex regional mosaic of colonial life" that scholars are just beginning to define (Mitchell 1987:111).

The British Crown, unlike the Spanish, did not limit colonial migration to members of the official church, in this case the Anglican or Church of England. Instead, members of different denominations and religious dissenters, such as the Puritans in New England, the Catholics in Maryland, and the Society of Friends in Pennsylvania, were permitted to migrate and worship in the colonies (Haring 1947:35). Among these groups, entire families migrated to the Americas and established religious enclaves within which they married, had

children, and worked communal family farms (McCusker and Menard 1985:217).

In other parts of the Anglo-American colonies, in contrast, immigration to the plantation based colonies of Virginia and the West Indies consisted primarily of single males, many of whom arrived as indentured servants (Potter 1984:149). These colonies were founded by mercantile companies interested in making a profit by producing export crops, such as tobacco, sugar, and cotton. When initial attempts to follow Spain's example of using Native American labor proved futile, they turned first to European indentured servants and then to African slaves.

The presence of African slaves dramatically altered the ethnic composition of these colonies. By ca. 1660, Africans comprised more than 40% of the population of the British colonies in the West Indies, 11.5% of the population of the Middle Atlantic colonies, and 5.6% in the southern colonies of Virginia, Maryland, and Carolina (McCusker and Menard 1985: 222; 226-227). In comparison, Africans accounted "for only a handful" of the ca. 1670 population of New England (McCusker and Menard 1985:227).

In general, economics also shaped the nature of interaction between the Anglo colonists and the Indians (Fitzhugh 1985: 104; Nash 1984:251-254). In the earliest years of settlement, these economic interactions centered primarily on the exchange of food resources and commodities needed by

the colonist for survival. In some regions, these early interactions were also marked by the military subjugation of the native peoples as the colonists sought to acquire land and control of the natural resources.

Eventually, however, a more entrepreneurial relationship, and one that has often been characterized as a "patron/broker-client relationship" (Thomas 1985:140), developed that was based on the fur trade. Beaver represented the most sought after fur because of the layer of soft hair next to the skin that was felted for hats and cloth fashionable in Europe (Wolf 1982:159). Furs were acquired through one of three means: local hunters, a local villager who acted as middleman, or directly from distant areas via overland trade routes. By the late 1600s, trading posts, especially in New England, became the primary sphere of interaction between Indians and colonists (Zuckerman 1989:141-155).

Although the officials in the Virginia and Massachusetts colonies proclaimed the importance of proselytizing among the native population, no concerted effort to convert the Indian ever developed. Some colonial groups, primarily the Puritans of New England and the Jesuits in Maryland attempted to convert the Native Americans, but these efforts represented informal undertakings, not formal institutions sanctioned by the Crown of England. England had no centrally organized crown-directed policy for dealing with the Native Americans, and intermarriage was forbidden by colonial law (Thomas

1985:141), even in those colonies with shortages of European women. Likewise, concubinage was not sanctioned, and it has been written that the "English pioneers prided themselves from the first on their self-denial" (Zuckerman 1989:145).

Church and State in the Atlantic World

The development of the Atlantic colonies was also influenced by the relationships between church and state. Church and state in all areas of colonial Latin America were inextricably linked by virtue of the Patronato Real (Royal Patronage). As set forth in a series of papal bulls issued between 1501 and 1543, the Catholic church with the king as secular head constituted a branch of royal government (Haring 1947:167; Greenleaf 1971:1). The Spanish monarchy exercised authority over all ecclesiastical matters in the colonies except religious doctrine and discipline (Haring 1947:167; McAlister 1984:194).

As outlined in the 1501 bull, the royal treasurer as a representative of the crown collected all tithes under the condition that they be used to maintain the church and clergy. This included the construction of church buildings and missions, the support of the clergy, the purchasing of olive oil, wine, and wheat for the celebration of the mass, and the supplying of altar cloths, canopies, vestments, wax, and other religious paraphernalia. The 1508 bull extended royal authority by investing the king with the powers to appoint

ecclesiastical leaders and to establish churches and monasteries. Archbishops and bishops were nominated by the king and installed by the pope, while appointees to lower offices, such as the parish priest, curate (assistant to the parish priest), or sacristan (the person responsible for the maintenance of the sacristy, church and its content) were selected by viceroys or governors and inducted into office by a bishop (Gannon 1983:37-38; Gibson 1966:76-78; McAlister 1984:194-195; Scholes 1971:21-22).

The crown acquired even more control with the 1543 bull which gave the monarchy the right to establish the office of bishop and to define the boundaries of the diocese under the jurisdiction of a bishop. In addition to these fundamental powers, the monarchy or the Council of the Indies as its representative also required all clergy, including missionaries, to obtain a royal license prior to emigrating to the colonies, and mandated that church officials swear loyalty to the Crown. The Council of the Indies also examined and certified all church correspondence (McAlister 1984:194-195).

One of the more important means of maintaining religious orthodoxy and of guarding the royal patronage was the Holy Office of the Inquisition. This powerful and well-known tribunal was instituted in Spain during the reign of Isabela and Ferdinand. It was established in the Indies in 1569 and reached its height of activity in the Americas in the 1600s (Haring 1947:188). During the seventeenth century, three

American tribunals existed in the viceregal capitals of Mexico City, Lima, and Cartagena with jurisdiction in New Spain, Peru, and New Granada respectively (Lockhart and Schwartz 1983:157-158). St. Augustine fell under the jurisdiction of the court in Mexico City.

Although the Inquisition was not active in many peripheral areas of the Spanish world, such as St. Augustine, its influence was still evident. By 1672, an ecclesiastical judge, Father Don Francisco de Soto Longo, served as its emissary to St. Augustine (Kapitzke 1991:34). The Inquisition operated as an independent agency that could defy and overrule both civil and secular authorities. It exerted control over the non-Indian population and it dealt primarily with such religious offenses as blasphemy, heresy, apostasy, bigamy, lack of respect for ecclesiastical authorities, and the uttering of "evil sounding words" (Lockhart and Schwartz 1983:157-158; Scholes 1971:28-29). It has also been suggested that in some regions of Spanish America, the Holy Office of the Inquisition functioned as a powerful means of controlling both civil authorities at odds with the clerical community and the clergy itself (Scholes 1971:29).

Unlike Spain, England was not united under one religion and did not share the same link between church and state. Instead, in stark contrast to the Catholic orthodoxy of Spain and Spanish America, England and the English colonies in the Atlantic world exhibited a plural religious character (Greene

1988:18-19). This religious diversity can be traced to the Protestant Reformation, a sixteenth century religious movement that questioned the "worldliness" of the Catholic Church, rejected papal authority, and resulted in the establishment of disparate religious denominations and a more secular orientation (Parrinder 1971:436-444).

This trend towards diversity extended to the colonial world. Most of the Virginia colony (1607) was settled by members of the Anglican church, the colonists who established the Plymouth Colony (1620) were Puritan Separatists, a more moderate group of Puritans migrated to the Massachusetts Bay Colony (1629), followers of the Catholic faith founded St. Mary's City in the Maryland colony (1634), and members of the Society of Friends settled Pennsylvania (1681) (Lemon 1987:126,132; Mitchell 1987:96). By the end of the seventeenth century, the Middle colonies of the eastern seaboard (Pennsylvania, New Jersey, and New York) contained a mixture of religious groups that included Reformed, Anglicans, Presbyterians, Lutherans, Baptists, and Huguenots (Greene 1988:49).

Although Anglican Protestantism was the faith of the British Crown and the predominant religion in the British-American colonies, the relationship between Church and State in the British colonies was not nearly as interconnected as it was in the Spanish colonial world. Although some colonial ventures were religiously inspired, religious fervor did not

dominate settlement, and in general, British colonial settlement was a more secular enterprise (Greene 1988:11). It has been suggested that, at least in the Chesapeake, the "intensity of religious conviction was never sufficient to constitute a primary shaping influence" and religious diversity, not orthodoxy, was the rule (Greene 1988:16).

In summary, the British and Spanish colonial systems differed in three important respects: the economic basis for settlement; the relative demographic, religious, and national characters of the colonies; and the nature and degree of ethnic interaction. In general, Spanish colonization represented a uniform effort to secure mineral wealth for Spain, and to Christianize the native peoples. The Crown and the Church controlled all aspects of colonization, including immigration policy and the treatment of Native Americans and Africans. In contrast, British colonization was more entrepreneurial in nature, and the Crown exerted less central control. The British colonial system also differed in the relative demographic, religious, and national diversity of the European migrants; the lack of a uniform mission effort; and the apparent absence of widespread miscegenation between Europeans, Native Americans, and Africans, except in the remote frontier. The "creole" population in the British colonial world was, therefore, more European than mestizo or mulatto.

The economic, demographic, and religious conditions highlighted in this chapter provide a framework for understanding the seventeenth-century Atlantic world. They also furnish the context within which Spanish-American and British-American colonial cultures developed. The specific archaeological and historical models used to explain the nature of Spanish and British cultural development in the Atlantic world are discussed in the next chapter.

CHAPTER 3

MODELS OF EUROPEAN-AMERICAN CULTURAL DEVELOPMENT

This chapter reviews existing models of European American cultural development as a basis for considering the processes of this development in seventeenth-century Spanish Florida. As such, it lays the groundwork for understanding both the general phenomenon of cultural formation in the Atlantic world and the more specific evolution of Spanish colonial cultural during the "middle" period in Florida. As in the previous chapter, the Spanish and British settlements of the Caribbean, the Chesapeake, and New England are used as a comparative base.

Most models of colonial cultural development have been derived from the documentary record alone, and only a few, such as Deagan's acculturation model (1983) and Deetz' cognitive model (1977), have been based on the integration of the historical and archaeological records. These two models, therefore, assume a particular importance in a historical archaeological research project such as that presented here. Not only do they operate from the same scale of generalization, but they provide the comparable data bases

necessary for the cross-cultural research strategy used here. Although the most comprehensive historical models are summarized below, emphasis will be placed on those that have been archaeologically derived.

A synopsis of the various models of cultural development for European-American societies is presented in Table 2. Most of these are descriptive models, characterizing temporal development while others attempt to provide explanations for change. For example, Deetz (1977) uses shifts in cognitive processes as an explanatory device, Deagan (1983, 1985, 1990) uses the nature of gender relations and roles as well as the increased incorporation of native traits to explain change, and Greene (1988) emphasizes the importance of both European origins and specific American colonial realities as important forces in the emergence of an American culture.

Despite their fundamental differences, most of these models view cultural development as an evolutionary process with identifiable and specific stages. Most of them also embrace the idea that at some point in their development, colonial culture underwent a period of regionalization and localism. This emphasis on localism and separate experiences for different parts of colonial America recognizes the emergence of distinctive regional cultures in various parts of the Atlantic world, which is a process characteristic of the middle period.

As defined by the cultural geographer Donald Meinig

Table 2. Principal Models of European-American Colonial Cultural Development

| AUTHOR | FOCUS | STAGES OF DEVELOPMENT | TIME PERIOD | MAJOR CHARACTERISTICS |
|------------------------------|--|-----------------------|-------------|---|
| Deetz 1973, 1974, 1977 | Massachusetts Bay & Plymouth colonies | Medieval | pre-1660 | identification with England; corporate |
| | | Folk | 1660-1760 | regional variation; conservative |
| | | Georgian | post 1760 | re-Anglicization |
| Fischer 1989 | British-American colonies | (Reconnaissance) | pre-1629 | exploration & reconnaissance |
| | | Transition | varied | transition of culture |
| | | Crisis | varied | internal conflict: elite vs. poor; autonomy |
| | | Consolidation | varied | dominant culture institutions formed; localism |
| Greene 1984, 1988 | Chesapeake colonies | Devolution | ca. 1770 | regional identity flourished; founding purposes lost |
| | | Simplification | 1607-1630 | unsettled; disoriented; simplified; individually oriented |
| | | Elaboration | 1630-1680 | acculturation to local environment; self- sufficient; creole elite forms |
| | | Replication | 1680-1760 | elites replicate England regionalization; conflict |

Table 2. Continued

| | | | | |
|--------------------------------|------------------------------|---|---|--|
| Foster 1960 | Spanish-American colonies | Conquest culture (Crystallization) Colonial Culture | varied varied varied | rapid change; fluid; basic outlines basic forms stabilized more rigid |
| Lockhart & Schwartz 1983 | Spanish-American colonies | Conquest Maturity | 1492-ca.1580 ca.1580-1750 | framework established elaboration; stabilization; localization; diversified economy |
| MacLeod 1973 | Guatemala | Conquest Crisis | 1500-1578 1580-1630s 1630s-1690s 1690-1720 | extractive experimentation depression revival of trade and native population |
| McAlister 1984 | Spanish-American colonies | Discovery & Conquest Post-Conquest | 1492-1560s 1560s-1700 | exploration; flexible; experimental; framework established consolidation; formation of American identity and society; elaboration |
| Gibson 1966 | Spanish-American colonies | Conquest Post Conquest Established | 1500s 1600s 1700s | exploration; settlement; simplification; crystallization; elaboration; slow change rigid social boundaries; resistant to Iberian influence |

Table 2. Continued

| | | | | |
|-----------------------------|------------------------------|---|--|--|
| Meinig 1986 | Atlantic World | Outreach Implantation Reorganization | 1492-ca.1600 ca.1600-ca.1750 ca.1750-ca.1800 | settlement; conquest; slavery introduced diversity; regional formation formation of federal republics; disintegration of empires |
| Breen 1984 | British-American colonies | Charter groups Charter societies Creole societies | early 1600s 1600s 1700s | first immigrants; small groups; scattered over large area; set rules fluid social, religious, economic boundaries rigid boundaries; greater homogeneity |
| Karras & McNeill 1992 | Atlantic World | Implantation Maturity Transitions | 1492-ca.1650 ca.1650-ca.1770 ca. 1770-1888 | exploration; conquest of territory; subjugation & destruction of Amerindians; initial settlement; sudden transformations creole society, local markets emerge; social classes develop with Europeans at top; population growth; European governmental institutions shift away from Atlantic; nationalistic movements |

(1986:80), regional culture refers to "that which is characteristic to a group of people who are deep-rooted and dominant in a particular territory, who are conscious of their identity as deriving from a common heritage, and who share a common language and basic patterns of life" (see Table 3 for a list of culture regions that have been suggested for colonial America). The remainder of this section will review and assess the dominant models of colonial development for the Anglo and Spanish colonial societies, respectively.

Models of Development for Anglo-America

The Declension Model

Historians of colonial America have traditionally explained the development of an American society within the framework of a "declension" model (Boorstin 1964:8; Lockridge 1981:7-52; Miller 1952:19-148, 1978:58-70). This older model was derived from the somewhat unique experiences of the Puritans in the New England colonies, and was used to characterize development in all parts of British America. More recent archaeological and historical models (discussed below), however, have questioned the validity of applying the declension model to other regions of the Atlantic world, and have suggested alternative models of change.

As noted in the previous chapter, the Puritans migrated to the Plymouth and Massachusetts Bay colonies of New England

Table 3. Culture Regions Proposed for Colonial America

| Researcher | Proposed Regions |
|---|--|
| Bailyn 1986 (United States perspective) | New England Hudson River Valley Delaware River Valley Chesapeake Carolinas |
| Boorstin 1964 (United States perspective) | Massachusetts Bay Pennsylvania Virginia Georgia |
| Fischer 1989 (United States perspective) | Massachusetts Bay Virginia Tidewater Delaware Valley of Pennsylvania Appalachian Highlands |
| Greene 1984, 1988 (North American perspective) | Chesapeake: Virginia, Maryland, northern North Carolina, southern Delaware New England: Massachusetts, Connecticut, Rhode Island, New Hampshire, Nova Scotia Atlantic and Caribbean Islands: Bermuda, Bahamas, Barbados, Antigua, Nevis, Montserrat, St. Kitts, Jamaica Middle Colonies: New York, New Jersey, Pennsylvania, northern Delaware Lower South: southern North Carolina, South Carolina, Georgia |
| Meinig 1986 (Atlantic World perspective) | Canada Greater New England (including Long Island) Hudson Valley (including eastern New Jersey) Greater Pennsylvania (including western Jersey, parts of Maryland and Virginia) Greater Virginia (including Tidewater Virginia and parts of North Carolina) Greater South Carolina (including Georgia, parts of North Carolina) Tropical Islands Lower Rio Grande Florida, Louisiana, Texas |
| Mitchell 1978 (U.S. perspective) | southern New England southeastern Pennsylvania western Chesapeake Tidewater Carolina low country |

with the expressed purpose of establishing an orthodox religious community based on their theological belief in the Old Testament as the "one true doctrine" (Boorstin 1964:8; Greene 1988:8). Initially, settlement consisted of small family farmsteads organized around a communal meeting house, and for a number of years the Puritans were able to maintain their "ideal" religious communities.

Beginning in the 1670s as the population grew, religious conflicts arose, and the demand for New England fish and lumber increased, the Puritan communities began to splinter and new mercantile centers developed in port cities, such as Boston and Salem. The growth of these urban centers, and the emergence of a mercantile class gradually led to a more secular, individual, and material orientation than that originally envisioned by the Puritans. From the Puritan point of view, this change represented "moral and social decline" and a breakdown of their original Puritan goals of establishing an orthodox religious community (Greene 1988:8).

The Structural Model

One of the few archaeological considerations of the evolution of British colonial culture has been explained in terms of three successive stages known as "Medieval," "Folk," and "Georgian" (Deetz 1974:22). These terms, which are derived from the disciplines of anthropology (Foster 1953; Redfield 1941), art history (Gowans 1964 in Deetz 1974), and folklore

(Glassie 1968;1975), were first used to explain general behavioral characteristics shared by the colonists of the Massachusetts Bay and Plymouth colonies of rural New England.

The "medieval" or yeoman tradition, included the initial reaction to colonization, and was a period of close identification with England. It was characterized by conservatism, cultural homogeneity, and a corporate or communal emphasis in both secular and non-secular life (Deetz 1977:28-45). In contrast, the "folk" period, which coincided with the middle period of colonization, was characterized as a time of increasing regionalization and localism as the colonists diverged from their European parent culture (Deetz 1974:22). Archaeologically, this diversity is reflected in dining etiquette, mortuary art, and the internal organization of space (Deetz 1977,1987; Deetz and Dethlefsen 1978; Little and Shackel 1989). This emergence of Anglo-American society with its local orientation was reinforced in part by a growing number of individuals born in the New World.

The third stage of development, the "Georgian" tradition, has been called a re-Anglicization because of the resurgence of influence from the English homeland. It is marked by the transition from a "corporate" world view to a secular one that emphasized order and individuality. In this particular archaeologically derived model, these various stages were explained in reference to changes in the "mind set," a term

used to denote the cognitive rules that organize the material world (Deetz 1977:67).

According to this tripartite scheme, the British system carried by the colonists experienced a sudden loss of complexity due to the colony's isolation and weakened economic links with England. Following an initial adaptation to new environmental and economic conditions, concomitant with an increase in population, settlements expanded, regional identities formed, and the older frontier areas began to replicate the national culture of the parent country.

Like the declension model, this archaeologically derived model also exemplified the experiences of the settlers in the Plymouth and Massachusetts Bay Colonies of New England. A recent synthesis of archaeological investigations at Flowerdew Hundred, a colonial British "plantation" or settlement in Virginia, however, suggests that this model can be applied to other regions of the British colonial world (Deetz 1993). It also indicates a period of relative stability during the middle period of development in the Chesapeake region (Deetz 1987, 1993). The cognitive model differed, however, in that it viewed the formation of colonial culture, not as breakdown in social order, but as a movement from "traditional" (i.e. rural, agricultural, communal, and religious) to "modern" (i.e. urban, industrial, individualistic, and secular).

The Developmental Model

Like Deetz' structural model, the "developmental" model postulates three sequential stages in the development of Anglo-American culture: social simplification, social elaboration, and social replication (Greene and Pole 1984:1-3; 1988:81-100). Social simplification, characterized as a period of "disorientation and unsettledness" took place during the initial stages of settlement as the colonists attempted to adjust to their new environment (Greene 1988:167). This first stage represented a simplified version of English society and was distinct in its high male to female gender ratio, a high death rate, weak social institutions, and a "rough economic equality among free people" (Greene 1988:81).

In the late 1600s, Chesapeake society gradually became more elaborate as the settlers adapted to the local social environment. Chesapeake society during this stage of social elaboration has been described as a "highly creolized variant" of English society as the population grew more dense, neighborhoods formed, opportunities for new land ownership diminished, life expectancies improved, and native-born whites dominated the population (Greene 1988:168). Another important feature of this period was the growing importance of African slaves in the labor force as they began to replace indentured servants.

The final phase in the development of the Chesapeake, social replication, was characterized by a strong desire among the provincial elites to replicate the power shared by the rural English gentry. This stage was not harmonious and considerable conflict existed between the elites who dominated and the less affluent members of the population for whom the acquisition of land and independence was not always possible. Greene suggests that other regions of British America, notably the British Caribbean and the Middle Colonies of New Jersey, New York, Pennsylvania, and Delaware, underwent a similar process of simplification, elaboration, and replication, but that the specific nature and timing depended on the demographic situation, economic growth, territorial expansion, and the date of settlement (Greene 1988:81-100).

The developmental model described above differs from both the declension and structural models in its explanation of change as a movement towards stability and in its materialist interpretation. It also rejects the notion that colonial New England represented the total British experience in the Atlantic World. Rather, the transition of New England society from a corporate community to one that emphasized individuality may be atypical when compared to the development of British colonial culture in other regions of the Americas.

In contrast to the idealistic-orthodox society envisioned by the Puritans of New England, the early Chesapeake colonies and most of the other British-American colonies began as

economic ventures. As such, the overall "mindset" of these colonies during their initial stage of settlement has been described as secular, materialistic, exploitative, and individually oriented with a weak sense of community (Carr 1987; Carr, Morgan, and Russo 1989; Diamond 1967; Greene 1988; Greene and Pole 1984; Rutman 1971). Moreover, whereas New England was predominantly settled by family groups in pursuit of religious freedom, conformity, and orthodoxy, the majority of the Chesapeake area, with the exception of Maryland, was established as an economic venture with young men, not family groups, comprising the dominant percentage of the colonial population (Greene and Pole 1984:26).

This distinction not only influenced the specific development of the Chesapeake region, but it also contributed in important ways to regional diversity within British America. The formation of regions, the emergence of a provincial elite, economic and demographic diversification, and the overall movement in the direction of a "more complex, differentiated, and Old-World style society" are thus seen as signs of stability (Greene 1988:12-13,167; Tate and Ammerman 1979).

In addition, rather than relying on predominantly cognitive interpretations, the developmental framework recognizes ideological, environmental, demographic, and economic influences. It allows that distinct socioeconomic regions developed during the middle phase of settlement in

response to different motivations for settlement, natural environments, demographic compositions, and relationships between Europeans, Indians, and Africans. These distinctions are most evident in the spatial organization of the newly established colonies, their participation in an emerging global economy, and in their reactions to the multi-cultural worlds thrust upon them by colonization.

Models of Development for Spanish-America

The study of Spanish colonial development has been dominated more by schemes of periodization than by models of evolutionary development. Although influenced by Foster's work (1960), historians of colonial Latin America have tended to operate on a much more particularistic scale than do historical archaeologists, who tend to be more concerned with the general patterns of human behavior. Latin American historians have also couched the development of Spanish America in somewhat different terms, as discussed below and shown in Table 2. Most identify the initial years of colonization as a period of "conquest" and agree that the basic structure of society established during this initial phase remained in place throughout the colonial era. Most have also recognized a middle period of development that was marked by "elaboration" and "localism." These processes were effected, in part, by the economic and social conditions outlined in the previous chapter.

Gibson's (1966) three phases of development -- "conquest," "post conquest," and "established" -- perhaps follow Foster's model most closely. Like Foster, Gibson agrees that the conquest phase, which encompassed the initial years of exploration and settlement, was marked by a "simplification" of Iberian culture as the colonists struggled to meet their immediate needs. He also noted the tendency of Spanish-American culture to "crystallize" early and concluded that "the middle period of colonial history was a period of very slow change" (1966:135).

MacLeod's (1973) periodization for Central America emphasized economic conditions, and included four phases: "conquest," "crisis," "depression," and "revival." The first or "conquest" phase of colonization (ca. 1500-1578) was marked by the extraction of gold and silver and the "exploitation" of Native American labor. Towards the end of the century, the gold and silver deposits dwindled, the Native population declined due to epidemics and their exportation as slaves to Cuba and Panama, and the colonists were forced to search for other marketable products. The conquest phase, therefore, was followed by a period of "crisis and experimentation" (ca. 1580-1630s) as the colonists tried unsuccessfully to develop first cacao and then indigo as an export crop. When these efforts failed, a period of economic depression ensued, during which the colonists turned to cattle, seized native land, and began to develop self-sustaining haciendas worked by a small

.

number of Native Americans. MacLeod argues that these economic pressures created social and economic divisions (i.e. large, Spanish-owned estates in the foothills and Indian communities in the mountains) that continued into modern times.

Lockhart and Schwartz (1983) separated the development of Spanish colonial society into two major periods: the "conquest" and "mature" periods. Like Foster and Gibson, they asserted that the basic outlines of Spanish America were established during the "conquest" or initial phase. They defined this phase chronologically as beginning with the Columbian voyage in 1492 and ending with the decline of Spain's power in the Indies ca. 1580. Lockhart and Schwartz' maintained that although social and cultural modifications took place during the mature period (ca. 1580-1750), the "framework" left by the conquest society "remained." When compared with the initial years of colonization, the mature colony represented a time of "slow evolution" during which this original "framework" became progressively more elaborate and locally oriented. As evidence, Lockhart and Schwartz noted the steady increase in a creole population, the growth of local industries such as obrajes and haciendas, and the continued reliance on Native American labor, although on a reduced scale because of their rapid decline in numbers.

Another important synthetic treatment of Spanish colonization in the Atlantic world, Spain and Portugal in the New World by McAlister (1984) also characterized the first

phase of Spanish settlement as a formative period of "discovery" and "conquest" (1492- ca. 1560s), but labelled the second phase of settlement as the "post conquest" (ca. 1560s-1700). In its most general form, McAlister's scheme, like the others outlined above, portrayed the conquest as a time during which the underlying economic and social foundations of colonial society emerged. These included a centrally controlled economic structure based on non-Iberian sources of labor, and a pattern of trade whereby the Indies produced export products (primarily precious metals, hides, cochineal, sugar, and dyewoods) in exchange for imported European manufactured goods and luxury items, such as flour, wine, olive oil, weaponry, hardware, household items, and clothing. It also included a fluid, but hierarchical social structure headed by Spanish colonists and based on the domination of Native American and African peoples.

These basic forms continued in the post-conquest period, but their style was altered, and they became more diversified. For example, the pattern of trade shifted from one with primary dependence on Seville and Spain to a more American (more specifically Mexico City) oriented and controlled market. In addition, the social structure became more complex as new social groups, including both native born Spaniards and castas, emerged. It continued, however, to be hierarchical in nature and Spaniards remained at the top of the social order. As stated by McAlister (1984:211): "By the end of the

seventeenth century, these [sic] basic forms of Hispanic American societies, economies, and political behavior had become . . . firmly fixed."

The Cultural Crystallization Model

From both an anthropological and historical perspective, the first, and the most influential, characterization of the development of Spanish-American culture was offered by George Foster in Conquest and Culture (1960). In this important monograph, Foster defined the initial phase of Spanish settlement and exploration of the Atlantic world as a "conquest culture." The concept of a "conquest culture" entailed the existence of both a "donor" and a "recipient" group. Each group chooses, through formal and informal channels, those cultural elements deemed essential for coping with the contact situation. Formal or "planned" situations include institutionally sanctioned and directed policies, such as the Franciscan mission program or the implementation of the gridded town plan. These types of change were set in motion and directed by groups in authority, such as the government, the church or the military. In contrast, informal change took place on an individual level and included such lifestyle decisions as social attitudes, food preferences, folklore, superstitions, and popular medicine.

This selection process resulted in a "stripped down" or simplified version of Iberian culture created to address

the immediate social, environmental, and psychological needs of the first group of Iberian colonists (Foster 1960:10-20). As described by Foster, this initial phase, which was "relatively short . . . and highly fluid," represented a formative period in which "the basic answers to new conditions of life had to be found, and a rapid adaptation to changed conditions . . . was imperative. This was the period of blocking out of colonial cultures" (Foster 1960:232).

Following this initial period of adaptation, during which the basic framework of colonial society was developed, these new societies became more "rigid . . . and less prone to accept new elements from the parent culture" (Foster 1960:233). This process of stabilization took place after "the first several decades" and was referred to as "cultural crystallization" (Foster 1960:232-234). By the beginning of the middle period, cultural crystallization in Foster's sense (although not always labelled as such) is thought to have occurred in most parts of Spanish America (see Table 2).

The Acculturation Model

Archaeologists interested in the development of Spanish colonial culture have relied on Foster's model to help organize their research, and this present study is no exception. The first archaeological investigation to address the processes of formation for a Spanish-American tradition was conducted by Kathleen Deagan (1974, 1983). Her pioneering

research into the eighteenth-century community of St. Augustine revealed an admixture of Iberian and Native American cultural elements. More specifically, Deagan demonstrated that land use, spatial organization, architectural style, construction techniques, clothing, tablewares, and other highly visible aspects of the material world remained Spanish in style and form. Elements of the local Native American culture were, however, incorporated into the less visible, but equally important, domestic sphere of life, such as the food preparation technology and subsistence practices of the colonists.

This mixing of Spanish and Native American traits was attributed to the intermarriage between Spanish men and Native American women, a practice common to all areas of Spanish America. This admixture may also indicate the presence of Native American domestic help (Jerald Milanich personal communication 1994). Native American women probably assumed the duties and responsibilities of childrearing, cooking and home maintenance, and their influence is seen in the use of Indian cooking vessels and cooking methods. This adoption of Native American ceramics has been regarded as an important, and potentially universal, form of Spanish adaptation to the Americas, and one that sharply distinguished this adaptation from that in British colonies (Deagan 1983, 1985; 1993; Ewen 1990).

Except at the La Isabela site (1493-ca.1498), where Spanish goods dominated (Deagan and Cruxent 1993), this pattern is seen at all subsequent Spanish colonial sites studied to date (Deagan 1973,1983,1985). One of the earliest of these is Puerto Real, a Spanish city in modern Haiti founded in 1504, only 10 years after the establishment of La Isabela (Ewen 1991; Deagan 1988, 1994). Similar patterns of admixture have also been noted for the sixteenth century community of St. Augustine (Deagan 1985; Reitz and Scarry 1985), at the sixteenth century town of Nueva Cadíz in modern Venezuela (Willis 1976) and in the Moquegua Valley of southern Peru (Smith 1991). These studies demonstrated the immediacy of Spanish adjustments to new lands, and indicated a cultural continuity between various regions of the Spanish colonial world. The similarities between the sixteenth, seventeenth, and eighteenth centuries also suggested that after an initial and rapid transformation, Spanish colonial culture crystallized early and remained relatively unchanged for a period of 200 years.

The models of British and Spanish cultural development discussed in this chapter underscore a striking contrast in the study of colonial cultural traditions in the two areas. Archaeological research in British colonial America has not only been more extensive in terms of the number of sites and regions that have been investigated, but it has also been more consistent temporally. From an historical-archaeological

perspective, Spanish colonial models, however, are based on an incomplete understanding of that period between initial adaptation to a new social, political and physical environment and established society. The few archaeological studies that pertain to this middle period in the Spanish colonies (King 1981,1984; Reitz 1993) have been preliminary in nature and local in orientation.

Therefore, using St. Augustine, Florida, this study will evaluate the nature of cultural development during the middle period in Spanish America, and compare it to what is known of similar processes in British-American colonies of the same period. Specifically, it will question whether the process of local and regional elaboration that characterized the middle phase of British cultural development is evident in the archaeological record of a comparable period in the Spanish colonies. The next chapter provides the historical and social context within which the developments of the middle period in St. Augustine unfolded.

CHAPTER 4

THE "MIDDLE PERIOD" IN ST. AUGUSTINE

The chronological boundaries of the middle period in St. Augustine obviously cannot be defined precisely. However, it can be suggested that the period of contact and colonization was well over by the closing decades of the sixteenth century (ca. 1580), and that a well-established colonial society with an identity distinct from that of other colonies in Spanish America existed by 1700. The historical events (Table 4) and social organization of this period provide a context for assessing the middle period of development, and interpreting the archaeological data that will be presented in subsequent chapters. In order to provide a "sense of place," this discussion first presents an overview of the physical setting of St. Augustine. Following this, it is organized by the same parameters as those discussed for the Atlantic world in general (Chapter 2) to facilitate comparisons between the development of Spanish-American and British-American cultural traditions.

Table 4. Chronology of Key Events in Seventeenth-Century La Florida

| | |
|------------|---|
| 1573: | Franciscan mission effort began. |
| 1587: | Santa Elena abandoned and colonial capital moved to St. Augustine. |
| 1597: | Guale revolt. |
| 1599: | Hurricane and fire destroyed St. Augustine. |
| 1602: | Hearings conducted to decide whether or not to abandon St. Augustine. |
| 1605: | Bishop Juan de las Cabezas Altamirano conducted first episcopal visit to St. Augustine. |
| 1606 | Custody of Santa Elena de La Florida formed. |
| 1612 | Convento de San Francisco designated a province house. |
| 1614-1617: | Three epidemics killed 1/2 of Indian population. |
| 1622: | Hurricane struck St. Augustine. |
| 1626: | Florida subsidy lost in shipwreck off St. Augustine coast. |
| 1627: | Dutch corsair Piet Heyn captured Fleet of the Indies with subsidy for Florida. |
| 1633: | Franciscan missions expanded into Apalachee province. |
| 1638: | Major storm hit St. Augustine. |
| 1647: | Revolt in Apalachee province. |
| 1649-1659: | Yellow fever, and small pox epidemics and famine reported in missions. |
| 1653: | Maize crop destroyed by windstorm. |
| 1655: | Smallpox epidemic struck La Florida. |
| 1656: | Timucuan Rebellion in Potano and Utina provinces; San Luis de Talimalí established. |
| 1659: | Measles epidemic struck La Florida. |
| 1668: | British pirate Robert Searles attacked St. Augustine and killed 60 colonists. |
| 1670: | British established "Charles Towne". |
| 1672: | Construction of the Castillo de San Marcos began. |
| 1674: | Hurricane and flood leveled St. Augustine; Bishop Gabriel Díaz Vara Calderón visited Florida; Governor Salazar Vallecilla began experimental wheat farm in Apalachee. |
| 1675: | Wooden fort destroyed by Governor Pablo de Hita Salazar. |
| 1677: | Lack of funds stopped work on the Castillo de San Marcos. |
| 1680: | Abandonment of Guale and raids on Timucua. |
| 1683: | English pirates threatened St. Augustine, but do not attack. |
| 1685: | Castillo de San Marcos finished. |
| 1698 | Pensacola founded. |
| 1702: | Colonel James Moore attacked and burned St. Augustine. |
| 1702-1704: | Colonel James Moore destroyed missions. |

The Physical Setting of St. Augustine

Little is known about the layout of the first townsite of St. Augustine, except that Pedro Menéndez de Avilés established a fortification at the village of Seloy, a Saturiwa Timucuan cacique. Although the exact location of this initial settlement is uncertain, recent excavations at the Fountain of Youth Park Site suggest that the original landing and settlement were located within the vicinity of this park (Chaney 1987:14-15; Gordon 1992). Fire, floods, and Indian rebellions necessitated the rebuilding of the fort several times during the first few years of settlement. The exact locations of these various forts remain uncertain, but most scholars agree that they were rebuilt within the vicinity of the original site (Chatelain 1941:54-56; Connor 1925; Lyon 1983). This initial phase of experimentation closed sometime around 1570 when the town was relocated to a more permanent location, which is today situated south of the modern plaza (Figure 2).

Archaeological and historical research indicates that the ca. 1570 town of St. Augustine was organized according to a grid system in conformity to the 1563 official Spanish ordinances for town plans (Deagan 1982:182-191, 1985:13; Hoffman 1977:14; Manucy 1978:34-37). As depicted in a 1586 engraving by Boazio, and supported by documentary and

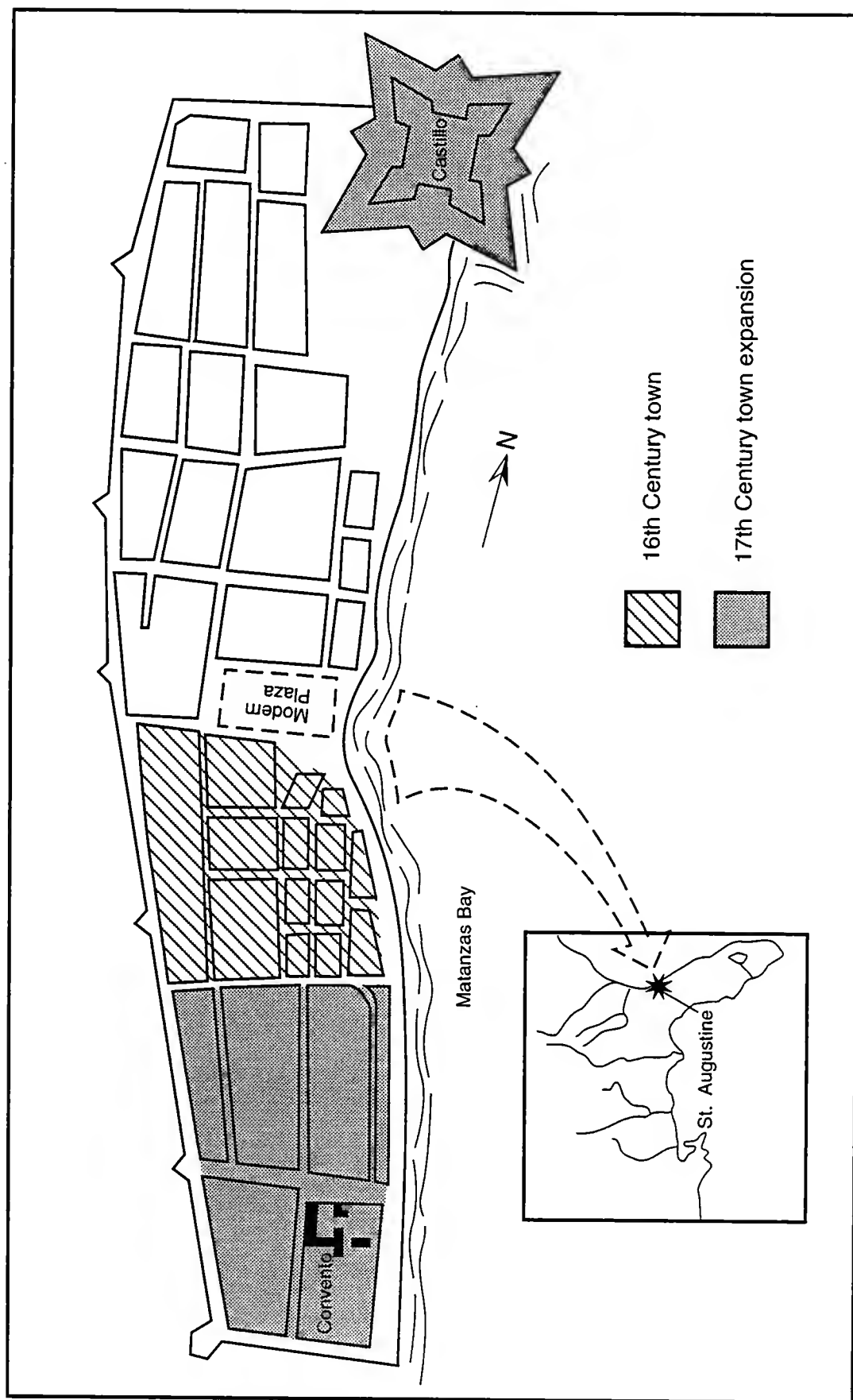


Figure 2. Colonial St. Augustine, ca. 1764 (Adapted from Elixio de la Puente Map)

archaeological investigations (Deagan 1982:192, Deagan 1981:626-633, 1983:183-206; Deagan, Bostwick, and Denton 1976; Hoffman 1977), St. Augustine consisted of a nine block area of individual houses spaced approximately 12 to 15 feet apart along the street front (Figure 3). These blocks were divided into equal lots that measured approximately 44 by 88 feet (50 by 100 Spanish pies). Detached kitchens and individual garden plots were located to the rear of the houses. Circular trashpits and barrel wells of a fairly uniform size and location were also situated behind the living quarters near the kitchens. A church, and possibly other public buildings formed the northern boundary of the town, and a hexagonal fort was situated a short distance to the north of the townsite (Deagan 1981, 1982; Hoffman 1977). Neither the Boazio map nor the archaeological evidence indicate the presence of a central town plaza (Deagan 1982:184-191).

Only three visual representations of the seventeenth-century town are known to exist, two fanciful engravings and a map showing the general location of St. Augustine within La Florida. The quite imaginative, and most likely inaccurate engravings, date to 1671 and 1683 respectively, and portray St. Augustine as a quaint coastal community set against a mountainous backdrop (Figures 4 and 5). The anonymous map, titled "Mapa de la Ysla de la Florida" and dated sometime between 1668 and 1700, does not provide any detailed

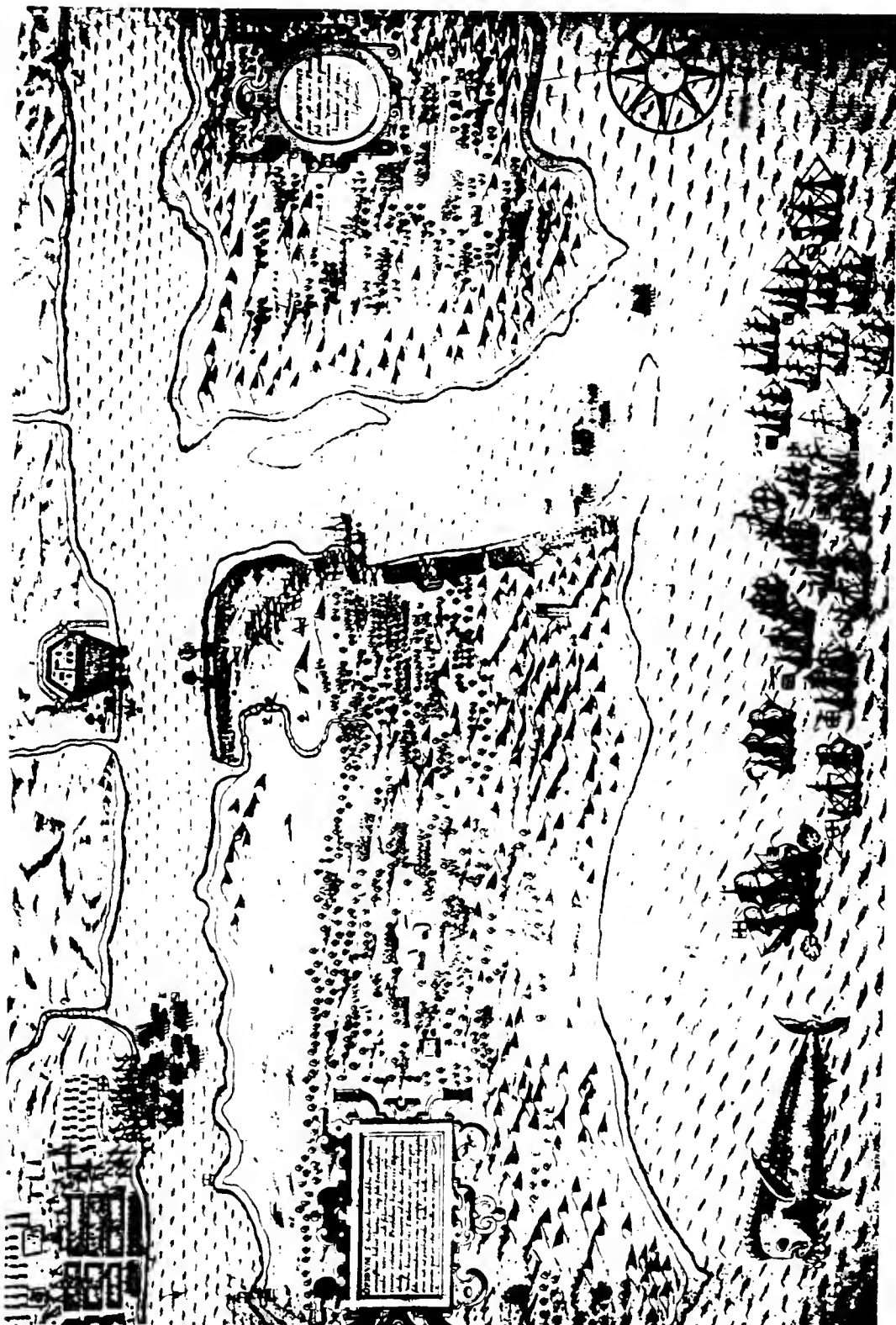


Figure 3. Boazio Engraving, 1586 (Courtesy of St. Augustine Historical Society)



Figure 4. Engraving of St. Augustine, ca. 1671 ("Pagus Hispanorum in Florida", Arnoldus Montanus, 1671. From The Unknown World, 1673, Courtesy of St. Augustine Historical Society)



Figure 5. Anonymous Engraving of St. Augustine, ca. 1683
 (From Mallet, A.M., *Description de l'Universe*, 1683,
 Courtesy of St. Augustine Historical Society)

depiction of the town of St. Augustine (see Chatelain 1941: Appendix). Information regarding the spatial evolution of the town is therefore dependent on contemporary verbal descriptions and the physical evidence of archaeological data. Although no research has specifically focused on the seventeenth-century town plan, preliminary historical and archaeological investigations into the nature of seventeenth-century spatial organization indicate that the basic gridded pattern established during the late sixteenth century remained the same, and in fact, the original grid plan is still evident today in modern St. Augustine (Deagan 1982; Bushnell 1983:33). Changes did occur during the 1600s, as a result of several natural disasters and population expansions. These events transformed the physical appearance of St. Augustine, but they do not appear to have altered the previously established underlying structural organization or configuration.

In 1599, a hurricane and fire destroyed many sections of the settlement. Accounts of the rebuilding by Governor Méndez Canzo indicate that additional lots were laid out to the south of the original townsite and that a plaza, which measured 250 feet by 450 feet, was marked out to the north of the town. The rebuilt town consisted of approximately 20 blocks with 120 wooden houses with cypress plank walls and palm-thatched or shingled roofs. A remodelled parish church, a guardhouse, the governor's house, and a warehouse-treasury building surrounded a new plaza, measuring 250 feet by 450 feet, that defined the

north edge of the colonial town (Arnade 1959:9; Bushnell 1981:46, 1983:39). A new hospital, Nuestra Señora de la Soledad, with six beds administered to the sick, and a new bridge crossed "el gran mosquitero" - the swamp at the western edge of town.

Despite this rebuilding, the cultural landscape of St. Augustine during the mid 1600s did not differ appreciably from that which existed on the eve of the seventeenth century. St. Augustine was still a small and isolated presidio with approximately 120 wooden houses, a wooden fort with "rotted timbers," dirt streets with free roaming animals, a remodelled parish church with a tile roof, a small hospital, a Franciscan monastery at the far northern end of town, a plaza, and horse-powered mill to grind corn. (Arnade 1959:9-10; Boniface 1971:71-73; Chatelain 1941:57; Manucy 1978:18).

Towards the end of the 1600s, other more substantial changes to the built environment took place, but these transformations still did not alter the basic pattern established during the late sixteenth century. Archaeological investigations revealed evidence for a late seventeenth-century occupation that extended south of the original townsite up to and including the vicinity of the Franciscan monastery located at the southeastern edge of town (Arnade 1959:41; Deagan, Bostwick and Benton 1976; King 1981:23; Figure 2). In addition to this expansion of the town boundaries, the type of construction material shifted from

wattle and daub to more permanent wood and tabby with some coquina. Some buildings became larger and architecturally more detailed, and activity areas expanded (Herron 1979; Hoffman 1990). Several late seventeenth-century accounts describe the houses and buildings as "wood with board walls" (Chatelain 1941:129; Dickinson 1696:84; Manucy 1978:19-21; Wenhold 1936:7). Tabby used in foundations, which would not have been visible to the casual visitor, was also a part of the architectural history of seventeenth-century St. Augustine (Chatelain 1941:129). Coquina was not yet widespread but by the end of the century, it was slowly becoming more common.

St. Augustine had been threatened and attacked by pirates several times during the seventeenth century. The 1668 midnight raid by a British pirate named Robert Searles, the raids against the Carolinians at Port Royal, and fear of retaliation spurred the construction of a secure and sturdy coquina fort, and construction of the Castillo de San Marcos began in 1672 (Arana and Arana 1972:51-72; Arana and Manucy 1977:12-13; Manucy 1978:20; Wright 1959:135-144). Although the Castillo was by far the most impressive example of coquina construction, other coquina buildings did exist. As indicated in the correspondence of Governor Rebolledo in 1655 and Bishop Calderón in 1674, the governor's house may have been, at least partially, constructed of coquina (Arana 1969:29; Chatelain 1941:129), and construction of coquina houses for the Treasurer and Accountant were underway (Manucy 1978:20-21).

The best estimate of private coquina construction is a 1708 inventory of houses destroyed during James Moore's raid in 1702. According to this inventory, a total of 175 houses existed in St. Augustine in 1702, and 16 or almost 11% of these reported houses were privately owned coquina structures with a value of at least 1000 pesos (Arana 1969:30). In addition to its use in buildings, coquina was also used in the 1690s to construct a seawall that extended from the Castillo south to the town plaza (Boniface 1971:70).

Despite these physical alterations, the basic gridded layout of St. Augustine did not change, and the locations, orientations, and functions of specific public buildings, such as the church, the Convento de San Francisco and the Castillo de San Marcos, remained unchanged. The fundamental pattern of spatial organization established during the initial years of settlement -- a time of great change and experimentation -- stabilized, but it also began to grow into a more elaborate form. A similar process of amplification, although on a much grander scale, occurred throughout Latin America as churches, monasteries, and government buildings grew in architectural splendor but retained their original locations, functions, and basic structures (Lockhart and Schwartz 1983:127,155).

The Economic Organization of the Community

Throughout its existence as a Spanish presidio, St. Augustine relied on the situado, an annual subsidy provided by the Crown of Spain that was intended to cover such governmental expenses as administrative salaries, the construction of fortifications and the support of the garrison. The situado was created by a royal cédula in 1570 to provide financial support to La Florida because of its vital strategic role in the defense of Spanish shipping lanes between the Americas and Europe (Gibson 1966:183-185; Hoffman 1980:146; McAlister 1984:310). Initially, the situado was paid from the Panama/Nombre de Dios treasury (Hoffman 1980:146). Beginning in 1574, payments came from the Vera Cruz treasury, and by 1595, Mexico City had assumed responsibility for the Florida situado (Sluiter 1985:3).

The amount paid to St. Augustine from the Mexico City Treasury depended on the number of plazas or positions held by the garrison, and took the form of wages and supplies (Bushnell 1981; Hoffman 1980:146, Sluiter 1985). The supplies needed to sustain the town were purchased by an agent of the governor, called a situadista, who travelled to New Spain to collect the subsidy. Upon his arrival, the agent presented a certified statement of needs, signed by the governor, to a representative of the audiencia and bargained for the required specie and supplies. Goods intended for the presidio were carried overland by pack train to Vera Cruz, and then put on

ships bound for Havana. From Cuba, the money and supplies were transhipped to St. Augustine where the governor and treasury officials distributed them among the garrison and families (TePaske 1964:77). Those goods not immediately distributed were protected and stored in the Royal warehouse at the fort in St. Augustine (TePaske 1964:77-78). Throughout the seventeenth century, hard specie was scarce in St. Augustine and consequently, wages were often paid in imported goods, obsolete items or wage certificates that declined in value (Bushnell 1981:68).

Changes in the situado

Several important changes occurred within the situado in the early years of the seventeenth century that financially benefitted St. Augustine and La Florida. Two new cédulas were issued that increased the amount of money received by the presidio. The first cédula, issued in 1617, addressed the problem of financial compensation for spoiled goods (mermas). Prior to the 1617 cédula, losses due to spoilage of goods in warehouses or enroute to St. Augustine were deducted from the Florida subsidy. The new ruling eliminated this practice, and ordered Mexico City to reimburse Florida for the resultant losses. A second law, issued in 1624, altered the method used to calculate the amount of subsidy paid to Florida. Prior to this edict, the subsidy was based on 300 plaza holders each serving 365 days per year. This system of calculating the

subsidy was changed to more accurately reflect the actual daily record of plaza holders in the garrison.

Another ruling that indirectly affected the amount of subsidy paid to St. Augustine included the creation of a separate subsidy to support the Franciscan mission program. Beginning in 1616, the Franciscans received a separate religious subsidy, that issued to each friar the same pay and rations (158 pesos de a 8) received by a soldier in the garrison. This was supplemented with additional provisions, such as gifts for the Indians and cloth, shoes, maize, oil and wine needed to perform their religious duties (Sluiter 1985:6). Table 5 shows the amount of subsidy received by both the Franciscans and Secular community from 1616, the year the Franciscan subsidy began, through 1651, the last year for which figures are currently available. As the number of missionaries increased during the 1600s, the number of friars paid from the subsidy was limited to forty three, and a separate fund was created in 1646 to cover additional missionaries. In 1673, support of all of the Franciscans shifted to this separate fund. This mission subsidy benefitted the community of St. Augustine by making more money available to increase the size of the garrison and to construct a more substantial coquina fort, the Castillo de San Marcos (Bushnell 1981:65; Sluiter 1985). Unfortunately, no detailed study of actual payments received for either the secular or religious

Table 5. Comparative List of Subsidy Payments Received by the Franciscan and Secular Communities in St. Augustine, 1617-1651 (from Sluiter 1985)

| Year Received | Religious | Secular | Total |
|---------------|-----------|-----------|--------------|
| 1617 | 6.619 | 63.026 | 69.645.00 |
| 1618 | 2.675 | 62.688 | 65.363.00 |
| 1619 | 7.793 | 62.749 | 70.542.00 |
| 1620 | 3.542 | 65.133 | 68.675.00 |
| 1621 | 3.052 | 63.995 | 67.047.00 |
| 1622 | 2.623 | 66.915 | 69.538.00 |
| 1623 | 4.390 | 62.823 | 67.213.00 |
| 1624 | 3.963 | 65.783 | 69.746.00 |
| 1625 | 5.678 | 53.003 | 58.681.00 |
| 1626 | 5.089 | 66.971 | 72.060.00 |
| 1627 | 5.090 | 66.971 | 72.061.00 |
| 1628 | 5.118 | 69.899 | 75.017.00 |
| 1629 | 3.766 | 68.679 | 72.445.00 |
| 1630 | 3.507 | 42.759 | 46.266.00 |
| 1631 | 2.730 | 99.367 | 102.097.00 |
| 1632 | 3.264 | 66.306 | 69.570.00 |
| 1633 | - | - | 0.00 |
| 1634 | - | - | 0.00 |
| 1635 | - | 74.409 | 74.409.00 |
| 1636 | 1.692 | 64.389 | 66.081.00 |
| 1637 | - | - | 0.00 |
| 1638 | - | 65.124 | 65.124.00 |
| 1639 | 1.458 | 32.455 | 33.913.00 |
| 1640 | 9.476 | 13.500 | 22.976.00 |
| 1641 | 1.287 | 20.325 | 21.612.00 |
| 1642 | - | 49.755 | 49.755.00 |
| 1643 | - | 45.627 | 45.627.00 |
| 1644 | 2.422 | 65.124 | 67.546.00 |
| 1645 | - | 73.747 | 73.747.00 |
| 1646 | 3.353 | 56.274 | 59.627.00 |
| 1647 | - | - | 0.00 |
| 1648 | - | - | 0.00 |
| 1649 | - | - | 0.00 |
| 1650 | - | - | 0.00 |
| 1651 | - | 128.695 | 128.695.00 |
| Total | 90.167 | 1,744,118 | 1,834,285.00 |

communities exists for the latter half of the 1600s, but subsidy payments, although irregular at times, presumably continued throughout the remainder of the century.

Problems with the situado

In the beginning of the seventeenth century, situado payments to Florida fluctuated because of fiscal difficulties in Mexico City. The treasury not only had to meet their new subsidy responsibilities, but also had to pay outstanding debts that the Vera Cruz Treasury had been unable to meet because of war and attacks on the flota system. These overdue debts leveled off around 1616 as trade and mining activities brought a new prosperity to Mexico City. According to Engel Sluiter's records of actual subsidy payments to Florida, a situado payment was received fairly regularly up until the 1630s (Sluiter 1985:Table 1). With two exceptions - the 1626 subsidy that was lost in a shipwreck off the coast of St. Augustine and was not paid until 1629, and the capture of the 1628 treasure fleet carrying the Florida subsidy by Piet Heyn of the Dutch West Indies Company - the situado arrived regularly during the early years of the 1600s. The amounts fluctuated somewhat, but the subsidy was paid in one lump sum sometime in April or May (Sluiter 1985:Table 1).

Problems began to occur in the Florida situado after 1635. St. Augustine received no money from the situado in 1637, and the records of payments received indicate that the

Mexico City Treasury started to fall into arrears. For example, the payment granted to St. Augustine for 1637 was paid in seven separate payments between February of 1639 and August of 1646. The 1638 situado was paid to St. Augustine in three different payments on three separate dates: in May of 1639, in January of 1641, and in August of 1649. No records of payments made to St. Augustine have been found for the years 1646-1650, suggesting that irregular payments of the subsidy continued through at least 1651 (Sluiter 1985:Table 1).

These delays in the situado often forced the governor of St. Augustine to obtain loans, and to look elsewhere for food and supplies, usually in Cuba. This weakened the bargaining power of the situadista and resulted both in high interest rates on the money borrowed and high prices for goods bought on credit. Consequently, when the subsidy finally arrived, most of the available specie, which was scarce to begin with, went to pay off the debts and interest to merchants in Havana (TePaske 1964:78). The unreliable nature of the situado during these years also influenced the emergence of a private contract system whereby individual merchants in St. Augustine obtained permission to bypass the situado and trade directly with Havana, Campeche, Spain, and the Canary Islands. These merchants often used their houses as a warehouse to sell goods, often at excessively high prices, that were unavailable through other means (Gillaspie 1984:273-295). Examples of items sold through this private contract system included

cotton cloth, linen, serge, silk ribbons, stockings, wooden buttons, shoes, salt pork, maize, flour, cassava, olive oil, wine, wax, hemp, nails, and tobacco. Private merchants also acquired and sold munitions, such as arquebuses, spears, molds for making shot, lead sheets, copper for ladles used to load cannons, match cord, and cannon balls (Gillaspie 1984:286-290). Other ways in which the officials and people of St. Augustine dealt with the irregular arrival of the situado and obtained goods included the use of illegal trade networks and the development of economic enterprises within the colony.

St. Augustine's Inter-Colonial Economy

Trade between the various European colonies increased during the seventeenth century due to piracy, profiteering, and Spain's dwindling power in the Atlantic world. In St. Augustine, for example, Spanish goods dominate sixteenth and early seventeenth-century archaeological inventories, but by the late 1600s, the frequency of non-Spanish goods entering the colony increased owing to Spain's unwillingness or inability to meet consumer demands and the attempts by other European powers to break Spain's economic monopoly (Deagan 1983:22-23; King 1984:77-78). Not all of this trade was legal, and the historical record documents the existence of widespread smuggling operations, despite regulations strictly prohibiting it (Arnade 1959; Perry and Sherlock 1971). Smuggling was apparently a common colonial strategy used to

augment government supplies and to evade royal restrictions on trade in both the British and Spanish colonies (Ewen 1991; Lockhart and Schwartz 1983:153; Schmidt and Mrozowski 1988:32), and seventeenth-century St. Augustine was certainly no exception.

Dutch traders from New York often entered Matanzas Bay, under the pretense of distress, carrying prisoners or news of imminent pirate attacks, to sell goods to the townspeople (Arana 1970:10; Bushnell 1981:10). There are also reports of circumventing foreign trade restrictions by sending vessels to sea to purchase much needed military and naval supplies, such as artillery, ammunition, canvas, and cables (Bushnell 1981:10). In 1683, the Governor himself, Juan Marquéz Cabrera, waived the ban on trade with foreign merchants and traded produce to a Dutch merchant in exchange for guns, flour, saltpork, gunpowder, ironpots, and grindstones. This transaction took place at the Castillo, which was technically outside of the boundaries of the city proper (Arana 1970:19).

Another incident of illegal trade, and a rather interesting example of colonial resistance to royal control, took place in the 1690s and involved the King of Spain, the Governor, the Royal Accountant in St. Augustine and the San Martín River (known today as the Suwanee), a major artery for smuggling. After accusing the Royal Accountant, Tomas Menéndez Marquéz, of engaging in illegal trade and using his ranch, la Chua, as a warehouse for unlawfully obtained merchandise, King

Charles II ordered Governor Quiroga to seal off the port of San Martín. In 1693, Quiroga constructed a palisade of pine logs and brush which floods soon after washed away. When the King ordered that it be rebuilt, the Governor appealed the order claiming that because it was planting season in the Native American villages, insufficient labor existed (Boniface 1971:207-208).

Despite the documented existence of smuggling, archaeologists in St. Augustine have not yet been able to identify many items associated with this type of trade beyond the occasional piece of British, Dutch, or French pottery. Undoubtedly, this absence of contraband material in the archaeological record is related to the types of items obtained through illegal trade networks. Gunpowder, cloth, flour, hides, and wooden objects simply do not preserve well in the saline soils of St. Augustine. It is also possible that contraband weapons, ammunition, and raw materials such as iron and lead have not been recognized as such. And, it is also plausible that the types of sites excavated in St. Augustine, predominantly private domestic households, simply would not contain large amounts of contraband material. It may be more likely associated with commercial or military sites. Whatever the reasons, the lack of readily identifiable contraband items not only points out the limitations of the archaeological record, in terms of preservation problems, but it highlights

the importance of integrating archaeological and historical data.

Economic Diversification in St. Augustine

As mentioned, the unreliable nature of the situado in mid century forced the officials in St. Augustine to explore other means of provisioning. As a result, new forms of economic activity developed, but these enterprises were based on structures that were already in place, and existing systems were used to implement these new programs. One of the ways in which the officials attempted to remedy St. Augustine's periodic food shortages and provide an export product was to establish farms and cattle ranches. The existing Franciscan mission system was used to open new lands for agricultural pursuits and to provide the Indian labor needed to operate these businesses successfully. In 1633, two Franciscans pushed west and formally began the missionization of Apalachee province (Hann 1988:2, 1990:469).

Haciendas

The largest and better known of these haciendas included the la Chua cattle ranch and an experimental wheat farm called Asile. La Chua, which was located near modern Gainesville (Baker 1993), was established sometime after 1646 by the Royal Treasurer Francisco Menéndez Marqués to provide beef to the people of St. Augustine (Bushnell 1978:408). The wheat farm

of Asile, supposedly located east of the Aucilla River on the Apalachee-Timucua border (Hann 1988:30), was started by Governor Benito Ruíz de Salazar Vallecilla, and operated for five years (1645-1650) before it was dismantled and sold. The property inventory for Asile indicated a large-scale operation that included six square leagues of wheat fields, several buildings, granaries, two slaves, eight horses and mules, plows, and eleven yokes of oxen (Bushnell 1981:81).

Other haciendas also existed, but less is known about their scale or specific operations. Although it has been suggested that as many as 37 ranches existed in the provinces of Timucua and Apalachee (Baker 1993:82; Boniface 1971:140), the exact number of haciendas and their locations are uncertain. In addition, the extent of the cattle industry in Florida has not been thoroughly explored from either an economic or spatial perspective. By the end of the century, however, it is known that at least four main clusters of ranches or farms existed (Arnade 1965:5; Hann 1988:137). They included at least seven ranches (la Chua, la Rosa del Diablo, Acuitasique, Abosaya, Chicharro, and Tocoruz) in modern Alachua County near Gainesville; approximately nine ranches, including Asile, in westernmost Timucua and Apalachee with Tallahassee as the focal point; an unknown number east of the St. Johns River; and, an unknown, and apparently, small group of ranches northwest of St. Augustine (Arnade 1965:5; Bushnell 1978a:411-418).

It has been assumed that these ranches represented an important source of beef, and possibly produce for the community of St. Augustine. The historical record indicated that the cattle ranch of la Chua and the smaller haciendas near St. Augustine, not the missions of Apalachee, provided St. Augustine with the bulk of its produce and cattle by-product needs (Boniface 1971: 145; Bushnell 1983:10-12; Hann 1988:137). The extent to which the outlying farms and ranches supplied the people of St. Augustine remains poorly understood, and should be investigated further. However, preliminary zooarchaeological research suggests that little beef actually reached St. Augustine during the seventeenth century (Reitz 1993a, 1993b).

Intra-colonial trade

Evidence for some trade between Apalachee and St. Augustine exists, but it appears to have operated on a rather small scale. There were at least three trade routes between the western provinces and St. Augustine over which Native American laborers carried goods on their backs and in canoes. These routes included an overland road, known as the Camino Real; a sea route used for heavy and bulky items; and a combined sea and land route originating in the Wakulla River, St. Marks or Wacissa along the Gulf of Mexico, and continuing up the San Martín River and onto the Camino Real (Boniface 1971; Hann 1988:149).

There has been little research on trade between Apalachee and St. Augustine, but trade between the two areas certainly existed. In 1646, a frigate from Apalachee arrived in St. Augustine with supplies, and in the 1650s, Governor Pedro Bedit Horruytiner, noted the arrival in St. Augustine of four or five shiploads of "foodstuffs" from Apalachee (Hann 1988:152). It is also known that in 1680, Enrique Primo de Rivera obtained a contract for transporting clothing, vestments, and the royal stipend for the friars from St. Augustine to western Timucuan and Apalachee (Hann 1988:151). The most detailed account occurred in 1703 when Apalachee sent 1,238 measures of corn, 150 measures of beans, two hogs, 32 chickens, eight arrobas of tallow and eight deerskins to St. Augustine (Boyd, Smith and Griffin 1951:46-47).

A growing body of historical and zooarchaeological data suggests that the majority of livestock and crops raised and grown in Apalachee may never have reached St. Augustine (Hann 1988:152; Reitz 1993a). There is more evidence for the development of an export trade -- the main products being beef, hides, tallow, corn, rum, and possibly, wheat -- between Apalachee and Havana, Cuba, that bypassed St. Augustine (Bushnell 1983; Hann 1988; Reitz 1993a, 1993b). The rise of trade between Apalachee and Havana at the expense of St. Augustine is indicated by Governor Rebolledo's ban on the exportation of produce from Apalachee to Cuba unless the needs of St. Augustine had already been met (Hann 1988:152).

Zooarchaeological data also suggest the existence of an extensive trade network between the missions throughout La Florida and the mission headquarters in St. Augustine that excluded the secular community (Reitz 1993a).

Other Economic Activities

As noted, cattle ranches, farms, missions, private contract systems, and a seemingly lively export trade developed during the latter years of the seventeenth century. But other economic enterprises, which have not been fully explored and which certainly played an important role in the community, also existed. Despite royal restrictions, trade between the Native Americans and Spanish colonists did exist. There was a market in the plaza to which Indian women brought pottery, baskets, painted wooden trays, deer and buffalo pelts, dried turkey meat, lard, salt pork, rope, fishnets, charcoal, leather, tobacco, fish, game, and maize to sell or trade with the townspeople (Bushnell 1981:11). The Native Americans also traded sassafras, amber, canoes, bear grease, and nut oil in exchange for European weapons, tools, nails, cloth, blankets, beads, and rum (Bushnell 1981:8).

Coquina deposits on Anastasia Island, worked by Native American and African quarrymen, were used to construct the fort (Castillo de San Marcos), the Franciscan monastery (Convento de San Francisco), a seawall, and some private residences (Boniface 1971:70). Ships were built in the town

and St. Augustine also had at least one grocery store that, among other things, sold sweet cakes. There also was a fish market, a gristmill, a tannery, a slaughterhouse, and a blacksmith where nails and hardware were forged. There were shopkeepers, tailors, shoemakers, an armorer, a washerman, and a surgeon (Bushnell 1981:27; Chatelain 1941:57; Hann 1988:53; Manucy 1978).

Orange, peach, pear, mulberry, quince, pomegranate, and fig trees grew throughout the city (Sauer 1980:22). The townspeople probably planted individual gardens as well as a communal plot and pasture (ejido) on the outskirts of town where crops were cultivated, including grapes, beans, melons, squash, sweet potatoes, garlic, red peppers, onions, and pumpkins. European cows, pigs, and chickens also were raised (Boniface 1971: 134; Bushnell 1983:40; Reitz 1993a:82).

The development of these other forms of economic activity illustrate the ways in which the people of St. Augustine built upon existing resources and created new opportunities for economic growth in spite of the various economic, social, and natural disasters of the seventeenth century. They continued to rely on the situado or illegal trade networks for military accoutrements and trade goods for the Native Americans, olive oil, wine, wheat flour, and luxury items such as sugar, chocolate or fine majolica. But, increasingly throughout the seventeenth century, the colonists became more self reliant. It appears that during the late 1600s, economic activity

diversified and became more internally initiated, and St. Augustine and La Florida may, in fact, have been on the trajectory towards self sufficiency had it not been for Colonel James Moore's catastrophic campaign against the Spanish settlements of La Florida.

Demographic Character and Social Interactions

As in most areas of Spanish America, three different groups of people, each possessing distinct and often conflicting cultural traits, comprised the seventeenth-century population of St. Augustine: the original Native American inhabitants of La Florida, the European immigrants, and the Africans. All of these people constituted vital components of the seventeenth-century community, and contributed in some manner to a crystallized Spanish colonial culture. To understand the roles that the Africans, Native Americans, and Europeans played in the process of cultural formation, it is essential to examine their origins, their demographic character, and the forms of social interaction among them.

The seventeenth-century community of St. Augustine has often been characterized as "cosmopolitan" because of its multi-ethnic and multi-cultural composition (Bushnell 1981; 1983:38). Population statistics are sketchy (see Table 6), but, not surprisingly, what emerges from the few demographic studies that exist is a portrait of a small and diverse

Table 6. Summary of St. Augustine Population: 1600-1702

| | |
|-------|---|
| 1600: | 250 men in the garrison ¹ |
| 1602: | 200 Indians ²³ |
| | 56 Africans ⁶ |
| 1604: | 190 soldiers ¹ |
| | approximately 30 African slaves: 18 "fit for work", 7 old men, 9 women ¹ |
| 1606: | 216 Indians ³ |
| | 100 African slaves ⁵ |
| 1607: | 300 to 500 people ¹ |
| 1609: | 60 soldiers arrived ¹ |
| 1619: | 186 active members of the garrison ¹ |
| 1621: | 250 people on the payroll: 35 priests, 18 sailors, 20 pensioners, 3 widows ¹ |
| | 36 Africans ¹ |
| 1638: | 100 infantry stationed in St. Augustine ¹ |
| 1647: | over 300 residents ¹ |
| 1655: | 12 "negroes" worked at the fort ¹ |
| 1662: | more than 300 residents ¹ |
| 1669: | 200 "effective" troops ¹ |
| 1671: | 280 garrison members ¹¹ |
| 1673: | 50 Indians from Guale sent to St. Augustine ⁴ |
| 1675: | 90 Indians in St. Augustine ³ |
| | 300 residents ⁹ |
| 1676: | 300 Indians brought in as laborers ¹ |
| 1680: | 350 garrison members ¹¹ |
| 1681: | 100 families living in St. Augustine ¹ |
| 1685: | 1400 people sought refuge in the fort ¹ |
| 1687: | 18 royal slaves joined labor force ⁷ |
| | 10 runaway slaves reached St. Augustine ^{1,8} |
| 1689: | 225 Indians in St. Augustine ³ |
| 1691: | 1175 Europeans in St. Augustine ¹ |
| 1692: | 354 garrison members ¹¹ |
| 1702: | 1200 to 1500 people sought refuge in fort; 323 garrison members ^{1, 10, 11} |

- Notes: 1. Dunkle 1958
2. Corbett 1974
3. Deagan 1990
4. Thomas 1990a
5. Bushnell 1981
6. Arnade 1959
7. Arana and Manucy 1977
8. TePaske 1975
9. Wenhold 1936
10. Corbett 1976
11. Arana 1960

European community intermixed with an equally varied number of Native Americans, and a small, but significant, number of displaced Africans (Corbett 1974, 1976; Deagan 1990; Dunkle 1958; Landers 1990; Rabinal, Alvarez, Escudero, and Redondo 1992). An overview of what is known regarding the number of Africans, Native Americans, and Europeans is presented below.

The African Population

Very little is known about the origins and culture of the Africans who came to St. Augustine because the Spanish authorities generally classified slaves according to their port of departure, not their tribal affiliations (Curtin 1969; Mörner 1967:18). It has just been within the last decade or so that scholars have turned their attention to Africans in St. Augustine and the Spanish colonies, and have begun to investigate their roles in Spanish colonial society (Arrom and García-Arevalo 1986; Deagan 1988; Deagan 1991; Landers 1990).

Origins and Roles in the Community

Unlike other regions of the Circum-Caribbean, Florida never possessed any worthwhile mineral resources or a plantation economy. Therefore, great numbers of African slaves were not needed to sustain the economic life of the colony, and most Africans did not directly enter Florida via the Atlantic slave trade. A small number came from Seville, but the majority came from the Antilles where they were purchased

by conscription from Cuba (Corbett 1974:429). The absence of plantations did not entirely negate the need for African labor, and royal slaves accompanied the first settlers to St. Augustine in 1565, although they probably numbered fewer than 50 (Landers 1990:320). In 1581, the Crown ordered Havana to send royal slaves to St. Augustine to supplement the slave force. Two years later, it was reported that slaves had built a church, a blacksmith shop, a platform for artillery, sawed timbers, cleared land for planting and repaired the fort (Landers 1990:320).

Africans in St. Augustine also worked as auctioneers, town criers, messengers, and as domestic help in the Franciscan monastery, the royal hospital, and the barracks, as well as in private homes. A free pardo, or mulatto, named Chrispín de Tapia, was in charge of a grocery store in 1694 (Hann 1988:53), and it is reported that an African servant worked in the Franciscan monastery in 1589 (Cooper 1962:7). At least two other African slaves, Antonio de Fuentes and Luis Hernández, labored at the convento in 1654 and 1655 (St. Augustine Parish Register, Book of Marriages 1654, 1655). Although exact numbers are difficult to obtain, Bushnell estimated that hidalgo households or those members of minor nobility, owned an average number of 4 adult slaves for whom they provided food, clothing, medicine, and tools. The hidalgo also assumed responsibility for ensuring religious

instruction and attendance at mass for their slaves (Bushnell 1981:22-23).

By 1602, royal treasury officials listed 56 Africans - "36 old slaves and 20 new ones" (Arnade 1959). In 1604, 34 Africans -- "18 men, nine women and seven too old to work"-- were included in official personnel rosters (Dunkle 1958:5). In 1606, there were approximately 100 slaves, 40 of whom were royal slaves, and Africans were apparently also placed on the payroll as drummers, fifers, and flagbearers (Bushnell 1981:22). In 1687, 18 additional royal slaves joined the labor force (Arana and Manucy 1977:19). In 1689, seven blacks and mulattoes were among those who labored on the construction of the Castillo de San Marcos. Although the figures are not precise, population estimates indicate that the numbers of Africans in St. Augustine rose slightly during the latter half of the century (Corbett 1974:418). In addition, the first "significant" influx of slaves dates to this period.

This can be directly attributed to several factors including the increasing incidence of pirate raids and the English establishment of the Carolina colony in 1670. The "founding" of the Carolina colony not only spurred construction of a coquina fort and an increase in the Spanish slave population, but it also led to the entry of "runaway" slaves to St. Augustine from Carolina. The proximity of the English settlement to Spanish Florida encouraged slaves to

escape and seek asylum in St. Augustine (Corbett 1974:429; Landers 1988:296-313, 1990:320).

The first group of fugitive slaves reached St. Augustine in 1687. Governor Diego de Qiroga y Cosada ordered the eight men to labor on the Castillo de San Marcos, and assigned the two women to work in his home as servants (TePaske 1975:3). By the 1690s, at least four other groups of runaways had reached St. Augustine (Landers 1988:14). As part of their "foreign policy," and in part because of the legal rights granted to Africans, the Spanish government encouraged manumission of runaway slaves and, in 1688, provided compensation to the English owners of slaves (Corbett 1974:429). In 1693, the crown ruled that fugitives who became Catholic had the status of freemen, and by 1683, Africans were organized into a militia (Corbett 1974:429).

To date, it has been difficult to recognize the African component in the archaeological record, especially that associated with St. Augustine. This may be related to the fact that Africans never comprised a dominant proportion of the population of St. Augustine, and many who came were already Hispanicized. However, excavations at Puerto Real (Smith 1986) and at a cimarrón community in the Dominican Republic (Arrom and García-Arevalo 1986) provide tantalizing evidence that African pottery making and metal-working traditions survived the harsh journey to the Spanish Americas. It also challenges currently held assumptions as to the origins of some

categories of artifacts, and suggests that pottery identified as Native American or metal items identified as European, may have been manufactured by Africans. Despite their archaeological "invisibility," by the end of the seventeenth century, Africans accounted for approximately 2% of the total population of St. Augustine (Corbett 1974:418), and their presence as royal employees, slaves, and domestic servants made them an integral part of seventeenth-century society.

The Native American Population

Many distinct groups of Native Americans resided in La Florida at the time of Spanish settlement (Milanich and Fairbanks 1980; Swanton 1946;). During the seventeenth century, the groups who experienced the most extensive contact with the community of St. Augustine included those Indians who resided in the provinces of Guale, Timucua, and Apalachee. Geographically, the province of Guale consisted of the Atlantic coastal region of southeastern Georgia and probably included Mocamo, the region from St. Simon's Island to St. Augustine (Larson 1978:120; Jerald Milanich personal communication 1994). Timucua province extended from the northern third of the Florida peninsula into the extreme southeastern portion of the Georgia coast, and included a number of subgroups: the Yustaga, the Utina, the Potano, the Saltwater Timucua or Mocama, the Cascangue, the Ibi, and the Fresh Water Timucua or Acuera. Apalachee province included

the Florida panhandle from the Aucilla River west to the Apalachicola River Valley (Hann 1990:424; Milanich and Fairbanks 1980:217,227). All of these groups interacted with the European community of St. Augustine at various times and in varying degrees, but the Timucuans, specifically those members of the Fresh Water group who lived in the St. Augustine region, sustained the initial and most intensive interaction with the colonists of St. Augustine, simply because of their proximity to the Spanish town.

The numbers and tribal affiliations of Native Americans who lived in the town of St. Augustine itself is unknown, but it appears that Florida Indians represented a sizeable proportion of the community. It has been estimated that Native Americans comprised approximately 36% of the population during the latter half of the 1600s. Of those recorded in the St. Augustine Parish Records, 33% hailed from the St. Augustine region, and Native Americans from the hinterlands, including the Yamassee from Tama, comprised the remaining 3% (Corbett 1974:418). Other estimates, derived from mission accounts and other religious documents, suggest a total Indian population of approximately 200 in 1602, 216 in 1606, 90 in 1675, and 225 in 1689 (Deagan 1990:301). Although these numbers were based on counts of Christianized Indians only, they do serve as a general indicator of the relative proportions of Native Americans in St. Augustine.

Several factors accounted for the presence of Native Americans in the Spanish town and influenced the demographic character of the community. Throughout the seventeenth century, powerful political, social, and economic forces disrupted traditional Native American social organization and settlement patterns (Hann 1986; Milanich 1978). Epidemic disease wreaked havoc on native populations, but those factors that most directly affected the Native American population of St. Augustine included a program of forced Native American labor (repartimiento) and the relocation of mission Indians to the St. Augustine area following attacks by British troops. Although poorly understood, these factors directly affected the demographic composition of the town and its immediate surroundings. As the administrative, military, and religious headquarters for Spanish Florida, St. Augustine provided economic opportunities for individual Indians willing to work as household servants, and served as a haven for refugees in need of military protection. The townspeople in turn benefitted from the program of forced Indian labor initiated under the Franciscan mission system.

The repartimiento system

In seventeenth-century Florida, the tribute system, in which grain, charcoal, wild game, baskets or pottery were demanded of Indian communities, gradually gave way to a labor draft known as the repartimiento. Although this system of

forced Native American labor was officially formalized by the Crown in 1503 (Deagan 1988a:198), it was first documented in Florida during the term of Governor Gonzálo Méndez de Canzo (1597-1603). It was in place as early as 1601 when Indians from Potano provided labor to raise corn in the St. Augustine area (Worth 1992:120). The repartimiento was administered through the Native American caciques who supplied "drafts of labor" to Spanish employers for specific jobs. Each Indian village in the mission provinces was assigned a quota that, in theory, included only unmarried males assigned to serve in yearly rotations (McAlister 1984:211).

Every year the Governor of La Florida drafted an order that stated the exact number of Native American laborers to be drafted from each village. One mandate was sent to the north and two to the western regions. The laborers were ordered to arrive in St. Augustine either in late February or early March and were to remain in the Spanish town for a period of four to seven months. Apparently, some of the repartimiento Indians did not always leave in June, but were retained as personal servants for the soldiers or officials (Worth 1992: 122,124,127). Those Indians forced into repartimiento service probably lived in huts in several small villages around the Castillo de San Marcos and on the outskirts of St. Augustine (Bushnell 1978:30; Worth 1992:125).

Two basic types of labor drafts existed: indios de cava and indios de servicios (Bushnell 1989). Indios de cava

consisted of workers sent to the city to clear, dig, and plant the communal and private field; perform the first, second, and third hoeing; and guard the ripening corn for harvest against crows and wild animals. Indios de servicio performed non-agricultural duties, such as unloading ships, paddling canoes, cutting firewood, and acted as couriers and personal servants in Spanish households. They received rations plus a daily wage that was paid in trade goods. Included in the indios de servicio were the indios de fábricas, who worked on public works projects, such as the construction of the Castillo de San Marcos, and indios de carga, who functioned as burden bearers and carried goods on their backs for long distances (Boniface 1971:182, Bushnell 1989:34).

The exact number of Native American who entered St. Augustine through the repartimiento system remains unknown, but contemporary documents offer some clues. According to Commissioner General Somoza, sometimes as many as 300 Indians and their families were in St. Augustine at a given time. Another official wrote that anyone of importance had "his service Indians and so had all his kinsmen and friends" (Bushnell 1978:30). For the mid 1600s, 32 to 60 Indians were drafted from Timucua province, 25 to 54 from Guale, and 200 from Apalachee (Worth 1992:123). In 1673, 50 Indians from Guale were sent to work in St. Augustine (Thomas 1990a:379). During the construction of the Castillo de San Marcos, as many as 300 Indians worked and lived in St. Augustine (Bushnell

1981:23), but it is not clear if this figure also included those Native Americans brought from Mexico to work on the fort.

Relocation of Mission Indians to St. Augustine

A second factor that affected the Native American population was the relocation of mission Indians to the St. Augustine area beginning in the 1600s (Hann 1990:501). This resettling was directly related to the British campaign to destroy the Franciscan missions in Spanish Florida (Bolton and Ross 1925:34-38). Although the largest movements of Native American people to the St. Augustine area took place at the end of the middle period (ca. 1702-1704; see Deagan 1990), the process of relocation began in the 1620s when the Carolinian militia attacked and destroyed Guale and Timucuan missions north of St. Augustine (Hann 1990:501). A major resettling of mission Indians to the St. Augustine area took place after 1670 when the British settled Charles Towne (Bolton and Ross 1925:34-38). The number of Native Americans who relocated to the St. Augustine area for protection and settled on the outskirts of the presidio is unknown.

The consolidation and movement of these various mission populations to St. Augustine may be reflected in the proportions of Native American ceramics found in the seventeenth-century archaeological record (Deagan 1993:306; Piatek 1985). By 1650, San Marcos pottery manufactured by the

Native Americans from Guale (Smith 1948:314-416) almost completely replaced the St. Johns pottery manufactured by the Timucuans who resided in the St. Augustine area (Goggin 1952:99-105; Piatek 1985:81-89). Furthermore, initial analysis of the late seventeenth-century Native American pottery assemblage from the Franciscan mission headquarters in St. Augustine indicates an increase in the quantity and diversity of both Guale and other non-local native pottery and concomitantly people in St. Augustine (Hoffman 1992).

The Spanish and European Population

Throughout the seventeenth century, people of Spanish descent clearly dominated the rosters of European immigrants to St. Augustine. This dominant group included both peninsulares (born in Spain) and criollos (born in Spanish America). No detailed information regarding the percentages of Spanish versus Spanish Americans exists for the first half of the century, but Dunkles' survey of baptisms recorded in the St. Augustine Parish records suggests a steady but slow increase in the "white married population" from approximately 275 in 1600 to 1,175 in 1691 (Dunkle 1958:8,10). Estimates for the latter half of the 1600s suggest that the proportions of male immigrants from the Iberian peninsula decreased from 31.6% (ca. 1658-1670) to 28.3% (ca. 1671-1691). As the proportion of peninsulares decreased, the number of criollos, castas, Native Americans, and Africans slowly increased, and

St. Augustine steadily developed into a more ethnically diverse community.

Although people of Spanish descent represented the majority of Europeans, scattered references to people who migrated from other areas of Europe exist. A letter written in 1598 by the Royal Accountant, Bartolomé de Arquéelles, noted that Governor Méndez Canzo brought seven "foreigners" to St. Augustine - an English fifer and six German artillerists (Arnade 1959:9; Bushnell 1983:38). In 1607, twenty-eight Portuguese, six Germans, twenty Frenchmen, and two Flemish were listed as members of the militia (Bushnell 1983:43; Dunkle 1958:5). In 1696, a member of Jonathan Dickinson's party reported that "some English ... lived here," including William Carr from the Isle of Man, a member of the garrison and "chief interpreter" (Dickinson 1945:83). In addition, there are reports of a Portuguese pilot and a French surgeon (Bushnell 1983:38). Corbett's analysis of the population structure during the latter half of the 1600s indicates that non-Spanish Europeans constituted approximately 3% of the entire recorded population (Corbett 1974:418).

Gender ratios and Intermarriage

Throughout its existence as a Spanish colony, St. Augustine functioned as a military town designed to protect Spanish territory from incursions to the north and to assist in the protection of the treasure fleets on their journey

between the Americas and Europe. Consequently, like many other Spanish colonies in the Indies, European immigrants to St. Augustine throughout the sixteenth and seventeenth centuries consisted predominantly of single men employed as members of the garrison who hailed from the southern and western regions of Spain. Most likely, few were under 15 or over 60, and included the younger landless sons of aristocrats, artisans, soldiers, sailors, laborers, priests, missionaries, and the unemployed (Corbett 1974, 1976; McAlister 1984).

European Women. Very little information is available regarding the numbers of European women who migrated to St. Augustine because women and children were generally not included in census data (Dunkle 1958:4). The limited information regarding Spanish women in St. Augustine suggests a slow but steady migration of women to St. Augustine during the initial years of colonization (26 of the original 800 colonists were women and 13 more arrived in 1566), but only a few entries to the colony after the first few years (Deagan 1985:7; Dunkle 1958:4). If St. Augustine followed the trend noted for other regions of the Indies, European women probably never accounted for more than about 28 to 30% of the total European population and the ratio of men to women never fell below approximately 3.5 to 1.

The shortage of Spanish women resulted in one of the most dramatic and fundamental transformations of Spanish culture into a Spanish colonial culture -- a pattern of intermarriage,

both formal and informal, between Spanish men and Native American women dating from the earliest years of colonization (Gibson 1966:115). This was not only sanctioned, but encouraged by the Spanish government as a means of stabilizing and converting the Indians. Spanish men and Indian women, living together, were persuaded to marry, and intermarriage between elite Spanish men and high ranking Indian women was used as a form of political alliance (McAlister 1984: 108-132; Mörner 1967). An example of this type of alliance in La Florida took place in 1566 when the head of the Calusa Indians, Chief Carlos, "gave" his sister, Doña Antonia, to Pedro Menéndez de Avilés as a wife (Lyon 1983:149).

Intermarriage in St. Augustine. Intermarriage was so prevalent in sixteenth-century St. Augustine that it has been suggested that possibly one half of the married women may have been Indian (Bushnell 1983:38), and that by the 1600s, this pattern had become so ingrained that the sex ratio levelled off and "a good proportion of native-born St. Augustinians . . . were mestizos" (Bushnell 1983:38). Further evidence that intermarriage continued during the seventeenth century can be seen through an analysis of the St. Augustine Parish Marriage records.

An analysis of the marriage records revealed a slow, but steady increase in the proportions of marriages between people of different national origins and ethnic groups. As shown in Table 7, the percentage of "mixed" marriages, which included

Table 7. The Frequency of "Mixed" Marriages in Seventeenth-Century St. Augustine

| Years | Number of Mixed Marriages | Percentage of All Mixed Marriages | Percentage of All Marriages |
|--------------|---------------------------------|---|-----------------------------------|
| 1594-1598 | 2 | 4.4 | 8.0 |
| 1600-1619 | 3 | 6.5 | 3.9 |
| 1620-1639 | 0 | 0 | 0 |
| 1640-1659 | 4 | 8.7 | 2.7 |
| 1660-1679 | 19 | 41.3 | 9.7 |
| 1680-1699 | 21 | 45.6 | 10.5 |
| TOTAL | 46 | 100.0 | 5.9 |

Note: data based on a transcription of the St. Augustine Parish Register, Book of Marriages (1589-1700) on file at the Historic St. Augustine Preservation Board; "Mixed" refers to marriages between Native Americans, Africans, and Europeans.

marriages between Spaniards, Native Americans, Africans, and castas, increased from 4.4% in the late 15th century to 45.6% by the end of the 1600s. In actuality, this number may have been higher because the Parish records may not accurately reflect the number of Native Americans or mestizos for several reasons.

First, the Book of Marriages for the years 1594-1640 includes only limited information regarding national origin and ethnicity. Not until 1641 were more detailed records kept. Second, many of the marriages involving Indians and mestizos were recorded in the now-lost registers of the Indian mission doctrina records because they fell under the jurisdiction of the Franciscan friars rather than the St. Augustine Parish priests (Deagan 1990:158, TePaske 1964:175-177). Finally, during colonial times, the Spanish developed an extremely complex system of ethnic and racial classification based on the amount of European and African blood a person had. Consequently, a person classified as Spanish may in fact have been the product of several years of intermarriage between Europeans and Indians. For example, the child of a man who was 7/8 European and a woman who was 1/8 Indian was a castizo, but the child of a castizo and a Spanish woman was classified as Spanish (Mörner 1967:53-60). This system of classification, obviously obscures the "true" picture of intermarriage and must be kept in mind when interpreting records, such as the

St. Augustine Parish records, that list race and national origin.

The Importance and Role of the Catholic Church

The Catholic religion comprised a vital and all-encompassing aspect of colonial life in St. Augustine. The majority of the research concerning the colonial church in La Florida has focused on the Franciscan mission effort (Arenas Frutos 1981; Boyd, Smith and Griffin 1951; Gannon 1983; Geiger 1937; McEwan 1991; Thomas 1990), but some attention has been directed towards understanding the role and influence of the Church in the community of St. Augustine (Gannon 1983; Kapitzke 1991; Koch 1980,1983; Parker 1991; TePaske 1965).

Ecclesiastical Structures

The Catholic church in St. Augustine was represented by both regular and secular clergy, both of whom fell under the jurisdiction of the Bishop of Santiago de Cuba. The regular clergy included members of religious orders, such as the Franciscans, who established missions and sought to convert the Native Americans to Christianity. The secular clergy, who did not belong to a particular religious order, ministered to the non-Indian residents of the town of St. Augustine and therefore played a more active role in the religious life of the Spanish community. In the absence of a secular clergyman,

it was not uncommon for the friars to assume responsibility for the townspeople (Haring 1947:177) as happened when Father Marrón, the Superior of the Franciscans in La Florida, briefly served as parish priest from 1594 to 1597. He was replaced when Gonzalo Méndez de Canzo became governor and appointed a secular priest, Ricardo Artúr, to assume the responsibilities of parish priest (Gannon 1983:44-45).

There were never many secular clergy in St. Augustine and throughout the colonial era, they were outnumbered by the Franciscans. In the early years of the seventeenth century, only two positions were held by the secular clergy, the parish priest and the chaplain of the Castillo. In 1673, a third position opened up when a member of the secular clergy assumed the responsibilities of sacristan, duties which had previously been performed by a soldier in the garrison (Kapitzke 1991:17). This basic organizational structure, which originated during the early years of colonization, remained in place throughout the seventeenth century.

Social, Cultural and Intellectual Influences

The interweaving of church and state permeated not only the political aspects of life, but also the social, cultural, and intellectual activities of the community, and Catholicism "provided a basis for a common cultural identity" (Kapitzke 1991:29; Lyon 1983:20). In addition to their responsibilities to celebrate the Mass, preach the Gospel weekly, and

administer the sacraments, almost all social services, including education, the establishment of hospitals, and poor relief, fell under the domain of the clergy.

The specific types of church-sponsored social welfare projects in St. Augustine are poorly understood and have never been thoroughly investigated. It is known that the Franciscans operated a seminary at the monastery by 1605 (Gannon 1983:46). Also, the parish priest, Father Alonso de Leturiondo, conducted a school to teach "grammar" to the children during the late seventeenth century (Kapitzke 1991:33), but little else is known regarding the extent of education in St. Augustine. Presumably, there was a literate segment of the community interested in education because at least two libraries existed in town: one library of "Greek and Latin Fathers" housed at the Franciscan monastery (Shea 1886:460) and another private library consisting of 17 books owned by Sergeant Major Pedro Benedit de Horruytiner, a prominent criollo (Arana 1971: 158-171). Clearly, the education in St. Augustine did not compare to that available in the major commercial centers of Spanish America where universities were founded quite early. It is quite possible that the elite sent their children to Santo Domingo, Havana, Mexico City, or some other major metropolis to be educated, as was often the case among the elite in other colonial settings.

The parish priest and the Church with the assistance of lay organizations known as confraternities (cofradías or

hermandades) also organized community life "according to the Christian calendar" (Haring 1947:178; Kapitzke 1991:29; Lyon 1983). Cofradías existed in St. Augustine at least as early as 1576, and by 1688, there were at least six such confraternities in St. Augustine. These included the cofradía of Santa Veracruz (Holy Cross), Nuestra Señora de la Pura Concepción (the Immaculate Conception), Nuestra Señora de la Soledad (Solitude), Nuestra Señora de la Leche (Our Lady of the Milk), Las Ánimas (Souls in Purgatory), Nuestra Señora del Rosario (the Rosary), and Santísimo Sacramento (Blessed Sacrament). All were canonically instituted, and membership in these mutual aid societies was based either on annual dues of two to four reales or donations. Their membership included upper class women and men who upon their death left both obligatory legacies and bequests for charitable works to the cofradía (Parker 1991). Separate confraternities existed for Spanish, African, and Native Americans throughout Latin America (McAlister 1984:173, 406), and at least one such organization, Nuestra Señora de la Leche, existed in the Indian mission of Nombre de Dios (Kapitzke 1991:73).

Cofradías helped raised funds for the construction and financial support of the church; established hospitals, provided aid to widows, orphans, the poor, elderly, or ill; and organized religious fiestas, dances, dramas, processions, and funerals (McAlister 1984:136, 404). As such, they played an important role in the social and religious life of the

community. Cofradías also functioned as a type of hospice in that some of them, such as the Brotherhood of the Most Holy Cross, provided spiritual and psychological support to members facing death. Members visited the sick, maintained bedside vigils "until God took them," arranged funeral processions, and accompanied the body to the grave (Parker 1991:7).

Some of the more important functions of the Blessed Sacrament cofradía, founded by the parish church, included the care of the altar and tabernacle, the maintenance of the "perpetual light," and the care of at least some religious paraphernalia (Parker 1990:2-3). An inventory of the Confraternity of the Blessed Sacrament at the time of the transfer of St. Augustine to the British included a silver inlaid baldachin, or canopy suspended over the altar, made in Havana from re-worked silver candlesticks; a silver lamp; Holy water fonts; picture frames; a floor carpet; painted torch stands; artificial flowers; red painted lanterns; an incense chest; tin money boxes; a decorated book of Papal Bulls; a gold fringed parasol of crimson damask; and other personal and religious apparel, banners, veils, and altar cloths of cotton, silk, and damask adorned with embroidery and bordado (Rodríguez de Herrera 1764). The confraternity apparently acquired these goods not only through donations and dues, but through real estate transactions. This particular cofradía owned several rental properties in St. Augustine, including one included in this study.

Cofradía members (cofrades) also organized religious processions to celebrate significant religious events in the liturgical calendar or to honor a patron saint. At least five feast days or días festivos were observed in seventeenth-century St. Augustine: Corpus Christi, the Day of the Ascension, the Day of the True Cross, St. Augustine's Day (the patron saint of the town), and the Day of St. Mark's (the patron saint of the Castillo de San Marcos). Special masses were also conducted during Lent (Kapitzke 1991: 42-43; Lyon 1983:20). Holidays were celebrated with special masses paid for by the cofradías, prayer vigils organized by the female members of confraternities, religious dramas, and elaborate processions in which local dignitaries and cofrades "paraded through streets strewn with palm fronds and fragrant herbs" carrying statues, candles, a guidon with the cofradía insignia, intricate banners of Chinese silk, and canopies of brocade, velvet, and damask with gold or silver fringe. A special Mass at the parish church, the chapel at the castillo or at the Franciscan monastery followed the processions and closed the ceremonies for the day (Kapitzke 1991:30; Parker 1991:12-13).

Other important social events in the community centered around the death or marriage of a member of the royal family and the ascension of a new monarch to the throne. Again, no specific information regarding these rituals during the seventeenth century exists, but limited detail can be

extrapolated from the early eighteenth century. The community observed two days of mourning following the death of a monarch and one day when another member of the royal family died. During this formal period of mourning, women dressed in black gowns and headdresses, the men wore their dress uniforms or best clothes "adorned with black symbols of mourning," black crepe draped the buildings, flags flew at half mast, bells tolled from five in the morning until ten at night, and votive candles on the altars were lit. Town officials marched in a somber funereal procession to the parish church where a High Mass was held and eulogies given. The guardian of the Franciscan monastery also lit candles and said a funeral mass in honor of the deceased monarch or royal family member (TePaske 1965:100).

Royal marriages and the crowning of a new monarch (two kings ascended to the throne in the 1600s: Philip IV in 1621 and Charles II in 1665), were also celebrated with processions, bells, and special masses at the parish church and the monastery, but these public rituals assumed a more festive mood. The governor hosted a private banquet for the more prominent members of the community, but he also provided food and drink for the public fiesta that took place in the candlit streets and in the town plaza (Kapitzke 1991:30; TePaske 1965:103). Singing, music, dancing, and church-sponsored dramas were also important parts of these community festivals.

Summary

The economic, demographic and religious events and circumstances discussed above suggest that through the seventeenth century, a consistent pattern of social and economic organization and interaction can be documented. For example, the presidio continued to depend on the royal subsidy, the practice of inter-ethnic marriage continued, and Catholicism remained the dominant form of religious expression in the community. Along with this apparent consistency and stability, however, it appears that the economic and demographic structures of the community became increasingly diversified and locally oriented during the seventeenth century. The next chapter addresses the strategy and method used to investigate this proposition from an archaeological perspective using the archaeological record of the middle period in St. Augustine.

CHAPTER 5 ARCHAEOLOGICAL STRATEGY AND METHOD

As noted throughout the previous chapters, archaeological data are central to the objective of this study, which is to contribute to and refine our understanding of the processes involved in the emergence of unique European-American cultural traditions in the Atlantic world. This will be approached by using the middle period in St. Augustine as a case study. After defining the cultural forms, processes, and associated patterns that characterized the middle period in Spanish America, they will be compared to similar forces known from the middle period in British America.

The beginning years of the middle period in Spanish St. Augustine, the late sixteenth century, have already been characterized in detail by Deagan (1985). Therefore, although the sixteenth century data will be incorporated and used as a baseline, this study concentrates primarily on characterizing that segment of the middle period that remained "unknown"- the seventeenth century. Two general questions will guide this effort; the first concerns the nature of Spanish colonial

development, and the second concerns its degree of similarity to or divergence from that of the British colonies.

As a point of departure, this study will investigate the premise that Spanish America underwent a process of local elaboration and separation from the mother country, similar to that already demonstrated for part of the British colonial world (Deetz 1977, 1993; Greene 1988). As used here, elaboration refers to a diversification and addition of traits to the initial contact culture. The testing of this premise is based on those parameters that can be addressed archaeologically, and that have been documented in British America. For these reasons, Deetz' archaeologically derived model assumes primary importance. This model was discussed in Chapter 3, and is summarized below.

Deetz (1977) argued that the nature of British colonial culture gradually changed during the middle period from a simplified version of Old "England" to a more varied tradition that reflected local American concerns and realities. Much of this local orientation represented a "folk tradition" and could be attributed to the relative isolation of the colonies from their European homeland. This folk period was characterized as a time of great regional variation, and was marked by the appearance of new styles, the growth of American production, and a diversification of goods available to the colonists.

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In the material world, these forces were apparent primarily in the spatial organization, mortuary practices, and foodways associated with colonial life. As used by Deetz, "foodways" referred to "the whole interrelated system of food conceptualization, procurement, distribution, preservation, preparation, and consumption shared by all members of a particular group" (1973:16). These three elements of the colonial cultural system were manifested in the archaeological record as changes in the form of vernacular architecture, stylistic trends of gravestone art, and the use of and diversity of pottery assemblages, respectively. All of these categories of data revealed a transition from a relatively small and fixed inventory of traditional English styles to ones that emphasized American resources and manufacture.

If Spanish America underwent a similar process of local "elaboration" and separation from the mother country during the middle period, then comparable patterns and processes should also be evident in the archaeological record associated with the middle period in the Spanish colonies. In the case of St. Augustine, given our historical understanding of this era of settlement, the processes of diversification and separation should therefore be seen primarily as an expanding involvement in the Atlantic world, and a growing reliance on American resources. These forces should be discernible in the material world as: (1) An increase in the overall diversity of the material culture, (2) a decrease in the relative frequency of

Spanish goods, (3) an increase in the use of American goods and resources, and (4) the appearance of new Spanish-American or "criollo" elements.

The questions addressed in this study focus on those aspects of social and economic life that previous research has shown to be recognizable in the archaeological record. These questions, were asked first on a site specific basis, when applicable, and then on a more general community-wide level. The first question concerned the general pattern of artifact use during the middle period and its degree of change through time.

Artifact patterns represent an abstraction from reality that are used to statistically describe the material elements of a particular cultural system (South 1977). In addition, they provide an objective means of both ordering the material world and tracing change through time. Changes in the organization of the material world can therefore signal economic, technological, social, or cultural transformations in the cultural system that they represent.

If the middle period represented a time when the "contact culture" became more elaborate and diverse, then the basic organization of the associated material world should exhibit similar characteristics. That is, the relative proportions of general artifact categories (kitchen wares, architectural items, weaponry, etc.) should remain relatively unchanged through the late sixteenth and seventeenth centuries. However,

the specific type of material represented by these categories should exhibit a greater amount of variety, and new Spanish-American or "criollo" elements should appear.

In addition, the artifact patterns should also reveal an intensification of the pattern of European and Native American interaction that was established during the initial years of settlement. This should be discernible as an increase in the frequency of Native American food preparation utensils, including such things as cooking vessels.

Another question that guided this study involved the idea that the middle period represented a time of separation from the homeland and a growing reliance on the American colonial world. This shift in dependency, and possibly loyalty, from Spain to the American colonial world can be measured through an analysis of trade networks. The weakening ties with Spain should be evident in the material culture as a decrease in the relative frequency of goods produced in Spain. The developing reliance on the American colonial world should be seen as an increase in the proportion and diversity of American-produced goods. American-produced goods include those items either manufactured by Native Americans and European-Americans in the colonies or obtained through American trade networks.

In order to test these predictions, the assemblages from St. Augustine sites were first divided into three time periods: the late sixteenth century (ca. 1580-1600), the early seventeenth century (ca. 1600-1649) and the late seventeenth

century (ca. 1650-1702). As mentioned on the first page of this chapter, Deagan (1985) has already characterized the late sixteenth-century archaeological assemblage. Therefore, those data will be used as a baseline from which to assess the nature and degree of change during the middle period. These chronological divisions are based on our understanding of datable European ceramics (Deagan 1987; Goggin 1968), and on the documented economic and social circumstances of the middle period (Bushnell 1981, 1983).

Because archaeological data concerning architecture and gravestone art during the middle period in St. Augustine either do not exist or are too limited for inclusion here, they would not be reliable indicators of the forces associated with the middle period. However, material expressions of foodways do exist in the form of pottery and other kinds of food-related utensils. Ceramics played an important role in the daily lives of the people who used them, and comprise the majority of the material evidence concerning the past, both in general and in St. Augustine. Pottery assemblages, therefore, represent one of the more important categories of material culture, and are useful because of several assumptions concerning their function within a cultural system. It is generally accepted that the different elements of any cultural system are interrelated, and that change in any one area will affect other aspects of the system. Based on this, it follows that changes in the ceramic assemblage of the past indicate

shifts in the foodways of the past or shifts in the ethnic makeup of the population, which in turn reflect change in other elements (Deetz 1973:16).

Other evidence of foodways in seventeenth-century St. Augustine exists in the form of faunal remains. These have been analyzed and interpreted by Elizabeth Reitz (1993a), and her results are incorporated in this study. In addition to the pottery and faunal remains, artifacts indicative of non-foodway activities are also used to characterize the seventeenth-century material world.

The archaeological assemblages from each of the temporal subdivisions discussed above have been organized by functional categories that follow those developed by South (1977:88-106) and adapted for Spanish colonial sites by Deagan (1983:231-241, 1985:20). Except for construction material, which was weighed, each artifact was counted and then assigned to one of 14 major functional groups. This methodological tool represents a statistical description of artifact categories that describe the elements of a cultural system.

The use of these functional categories is based on the following assumption:

. . . each household in a colonial society represents a system within a much larger system of complex variables, with the larger system imposing on each household a degree of uniformity in the relationships among its behavioral parts. This uniformity is

expected to be revealed in various classes of cultural remains (South 1977:86).

While analysis of artifact classes may not be appropriate for questions that deal with individual behavior or issues of variability, it is useful for those questions that involve a larger scale, such as group and community-wide, and cultural behavior. When dealing with this larger scale, the use of functional categories of artifacts provides a specific way to organize data, and to define the parameters of regularity and variability within a cultural system. The functional grouping of artifacts also provides a objective means of comparing the assemblages from different sites both within a specific culture and across cultural boundaries.

The activity groups used in this study included: (1) Kitchen, (2) Architecture, (3) Weaponry, (4) Clothing and Sewing, (5) Personal, (6) Activities, (7) Furniture Hardware, (8) Tools, (9) Toys and Games, (10) Harness and Tack, and (11) Religious Items. In addition, each artifact group also included a number of subclasses for additional and more specific functional identification when available. For instance, the Kitchen group is subdivided into majolica, other tablewares, Native American, and food preparation items. This subdivision recognizes the importance of the majolica manufacturing tradition in Spanish society and the predominance of majolica on Spanish colonial sites. It also

acknowledges the role of Native American pottery as a critical element in Spanish colonial food preparation technology.

As part of the archaeological characterization of the seventeenth-century assemblages, the sample sites were ranked according to the relative proportions of Spanish or Spanish-American majolica versus Native American pottery. This index follows that used by Deagan (1983,1985) in her characterization of late sixteenth-century and eighteenth-century assemblages from St. Augustine. The use of this index should highlight intersite variability between the various sites, and allow some general statements regarding socio-economic differences between the various site occupants to be made.

Following this archaeological characterization, the ceramics from the assemblages were grouped according to their place of manufacture. Manufacturing locales for colonial pottery have been fairly well documented through both archival and archaeological research (Deagan 1987; Goggin 1968; Lister and Lister 1972, 1974, 1987; Noël Hume 1985). As a result, it is possible to identify the country of origin by examining the paste characteristics and decorative attributes of various types of colonial period ceramics. This, along with the important role of pottery in Spanish colonial culture, its preservation at archaeological sites, and its concomitant appearance in relatively high proportions, renders it

particularly amenable for tracing trade and distribution networks.

The ceramics from each time period were therefore grouped according to five major geographic areas. These included (1) Asia, (2) Europe, (3) New Spain, (4) Unknown European or European American, and (5) La Florida. With the exception of Asia, the ceramics within each of these general areas were then divided into more specific regions. For example, European ceramics were classified as originating in Spain, England, France, or Italy. The origins of Spanish-American ceramics were subdivided into Mexico City, Puebla, Tonalá, Yucatán, or unknown. Native American pottery manufactured in La Florida was arranged according to the three major provinces of Timucua, Guale/Mocamo, and Apalachee. In recognition of the uniqueness of colono ware as a potential pan-Indian or African ware, this particular type of pottery was included in Native American wares as a separate subgroup.

Despite the vast amount of archaeological research that has focused on cultural development in the British colonies (Benes 1977; Brown 1977), and in particular the Chesapeake region (Smolek, Poque, and Clark 1984), categories of data analogous with those used by Spanish colonial researchers are not readily available. The methods used to collect, quantify and organize data by historical archaeologists interested in the development of British colonial culture (Deetz 1977; Miller and King 1988) differ fundamentally from those used by

scholars interested in the Spanish colonial experience (South 1983; Deagan 1983; Ewen 1991).

In general, historical archaeologists working on British colonial sites expose and excavate large "blocks" or areas of a town, while those working in St. Augustine focus on uncovering individual households within a community. This problem in obtaining collections of excavated material recovered under comparable conditions, and the use of vastly different excavation strategies renders comparisons, based on quantifiable data, difficult at best. In addition, British colonial archaeologists also generally rely either on categories of data not available in St. Augustine, such as gravestone art and architectural forms (Deetz 1974, 1977, 1993) or use entirely different activity groups that are based on minimum ceramic vessel counts (Miller, et al. 1983).

While the use of different activity groups or minimum number of vessels, instead of number of sherds, does not necessarily pose a problem, the lack of accessible "raw" data (i.e. lists of artifact types and frequencies) does. For the most part, complete inventories of excavated material are simply not available in the published literature. In the Chesapeake region, this type of information exists only on the original catalog and analysis cards for a specific site (Julie King, personal communication, 1994).

Limited data regarding the origins of pottery exist from Kingsmill Plantation in the Virginia colony (Kelso 1984), but

several caveats are in order. First, the Kingsmill Plantation ceramic data are based on vessel count, not sherd frequency. Second, the sample size is relatively small when compared to the St. Augustine data, and third, the data used in this study are compiled from summary tables that categorize the ceramics as Chinese, Delft, and American (see Kelso 1984: Appendix B). Because no detailed listing of the specific types included in each group is included, Delftware is assumed to be of English, not Dutch origin.

Despite these limitations, the ceramic assemblage from Kingsmill Plantation, a seventeenth-century British-colonial community situated along the James River in the Virginia colony (Kelso 1984), will be used to measure the degree of separation from Europe and the reliance on American resources during the middle period. This will be approached by comparing the relative proportions of ceramics manufactured in China, Europe, and the Americas. The British colonial sites included in this comparison include the Pettus, Utopia, and portions of the Kingsmill Tenement sites. The samples used in this study were recovered from postholes, a well, and trash pits.

All three sites were located along the James River near modern-day Williamsburg, Virginia. Much of the documentation regarding land ownership and residency of Kingsmill Plantation during the seventeenth century is vague (Kelso 1984:35). All of the sites represented domestic households that date from ca. 1640-1700, the middle period in the Chesapeake region

(Deetz 1993). Although the Utopia site was named after James Utie, the original landowner, there is no evidence that he ever resided on the property. Instead, the property seems to have been occupied by tenants who worked the land. The Kingsmill Tenement site was occupied by "Thomas Farley, a tenant who had a wife, a daughter, and a 40-year old servant" (Kelso 1984:34-35).

Only one site, the Pettus site, was occupied by a resident landowner. Colonel Thomas Pettus was the twelfth son of a wealthy English merchant and politician. It is not known when he arrived in the Virginia colony, but by 1641 he served on the Governor's Council. Pettus initially acquired 200 acres of land, and then accumulated additional land through his marriage to Elizabeth Durant, a wealthy widow. By the end of the century, the Pettus family holdings included 1,280 acres. Colonel Pettus died in 1669, and his son, Thomas Pettus, inherited the land. Following the younger Pettus' death in 1691, the land was purchased by the James Bray family.

The compilation and characterization of the material record into functional categories and units of analysis comparable to those used for Spanish colonial sites, in general, and specifically St. Augustine, was found not to be feasible at this time. Consequently, much of the comparative aspect of this study will deal with a more general level of analysis. That is, the nature of Spanish colonial cultural development, as reflected in the archaeological record of St.

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Augustine, will be compared with the existing archaeologically derived model of development for New England and Virginia (Deetz 1977, 1993).

Sample Sites and Archaeological Contexts from St. Augustine

Archaeological deposits in St. Augustine reflect a continuous European occupation of more than 400 years (1565 to the present) and exhibit extremely complex stratification. The superimposition and mixing of the soil associated with the various occupations at most sites often render it difficult to separate and distinguish the various different temporal contexts. The identification of a specific cultural and temporal affiliation therefore depends on strict stratigraphic controls and the presence of tightly dated European ceramics, specifically Spanish majolica (Deagan 1987; Fairbanks 1972; Goggin 1968; Lister and Lister 1972, 1987) and English tableware (Noël Hume 1985). This is particularly true when dealing with late sixteenth and early seventeenth century contexts, a time span that covers a period of less than fifty years. Consequently, although most of the Spanish colonial sites excavated in St. Augustine have included a late sixteenth or early seventeenth century component, only seven have yielded a sufficient sample of closed-context

seventeenth-century proveniences for inclusion in this study (Table 8).

Identification of these proveniences, which are defined as "a deposit in the ground resulting from a single behavioral event or process" (Deagan 1983:56), was based on the terminus post quem (TPQ) for the deposit and its stratigraphic point of initiation. In order to ensure comparability in recovery and analytical methods, all of the sites chosen for this research were excavated either as part of the Historical Archaeology Program at Florida State University in Tallahassee or the Florida Museum of Natural History at the University of Florida in Gainesville (both directed by Deagan) or by personnel trained in these programs. The specific proveniences used in this research are listed, by site, in Appendix 1.

The seven sites used to conduct this analysis include: (1) the Convento de San Francisco (SA42A), (2) the Josef Lorenzo de León Site (SA26-1), (3) the Trinity Episcopal Church Site (SA34-1), (4) the Ximénez-Fatio House (SA34-2), (5) the Palm Row Site (SA36-4), (6) the Cofradía Site (SA33-1), and (7) The O'Reilly House site (SA35-1). All of the sites included in this research have been occupied since the sixteenth century, and are located south of the modern town plaza in St. Augustine in an area known today as "The Old City" (Figure 6).

Table 8. Summary of Occupational and Excavation History of Seventeenth Century Sample Sites.

| SITE | SITE NUMBER | SITE FUNCTION | EXCAVATION HISTORY ¹ |
|---------------------------|-------------|--|---|
| Convento de San Francisco | SA42A | Franciscan monastery 1588-1763 | UF: Hoffman 1990 |
| Cofradía | SA30-1 | Religious confraternity ca. 1576?-1763 | UF: Napoleon 1990 HSAPB: Napoleon 1990a |
| Trinity Episcopal | SA34-1 | Domestic residence ca. 1570?-1763 | FSU: Deagan 1978 Williams 1979 Deagan 1980 Vernon 1980, 1980a |
| Ximénez-Fatio | SA34-2 | Domestic residence ca. 1570?-1763 | UF: MacMurray 1972 Deagan 1973 Ewen 1984 McEwan 1985 FSU: Clauser 1975 Caballero 1979 King & Gaske 1980 Stevens 1981 |
| Josef de León | SA26-1 | Domestic residence ca. 1570?-1763 | FSU: Singleton 1976 Braley 1978 Deagan 1978 Caballero 1979 CETA: 1979 (no report) |
| Palm Row | SA36-4 | Domestic residence ca. 1570?-1763 | FSU: Poe 1979 |
| O'Reilly House | SA35-1 | Domestic residence ca. 1570?-1763 | FSU: MacMahon 1981 |

¹ UF=University of Florida, FSU=Florida State University, CITY=City of St. Augustine, HSAPB=Historic St. Augustine Preservation Board, CETA

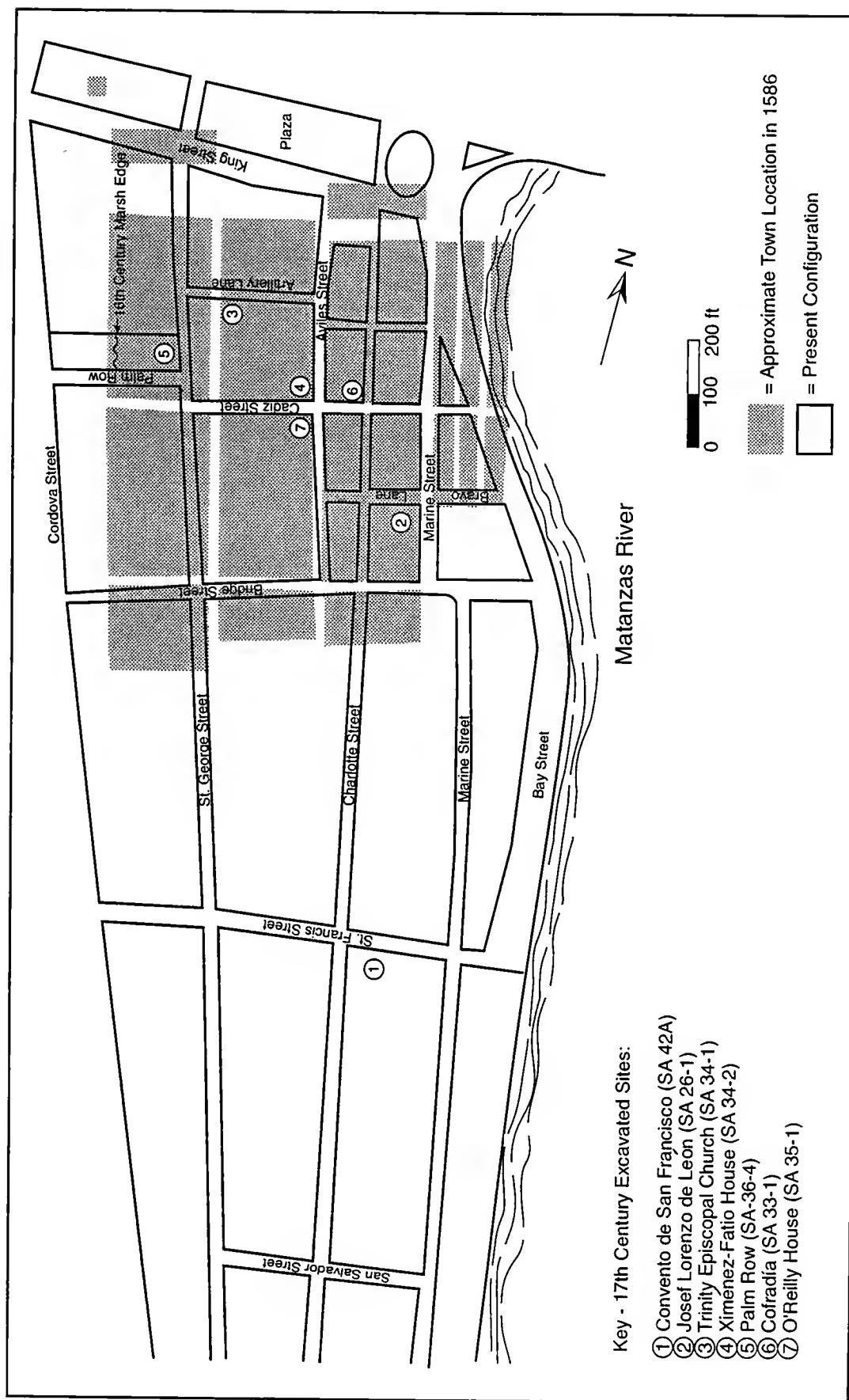


Figure 6. Location of Excavated 17th Century Sites in Relation to the 1586 Townsite

As depicted in a 1586 engraving by Boazio (see Figure 3 in chapter 4), and supported by documentary and archaeological research (Deagan 1981, 1982, 1983; Deagan and Bostwick 1976; Hoffman 1977), this "Old City" consisted of a core of nine blocks. Figure 6 shows the location of the seven sites within the colonial town, and in relationship to the 1586 Boazio map.

With the exception of the Convento de San Francisco, no known documentary information regarding the specific seventeenth-century occupations of these sites is available. In general, the archaeological assemblages suggest that the other six sites were domestic residences, and that the people who lived at these sites represented a variety of economic levels in the town. The sampling strategy at all of the sites focused on "backyard" (Fairbanks 1977) areas where kitchens were located and everyday activities, such as cooking, washing, and throwing away trash took place. As shown in Appendix 1, most of the sample used in this study came from trash areas, wells or well construction pits that were situated in the "backyard" area of the residences or monastery.

Considerably more information is available for the Convento de San Francisco site because of its function as a Franciscan monastery (or friary) and mission headquarters throughout the sixteenth, seventeenth, and eighteenth centuries. As such, it represented an important center of Catholic administrative and religious activities and rituals

during colonial times. In addition, the Convento de San Francisco provided the largest and most reliable sample of seventeenth century material recovered from St. Augustine to date. Before summarizing the results of excavations at these sites, it is important to discuss how and why assemblages from such different sites can be used to address the question of cultural development.

The factors of site function and socio-economic standing affect the archaeological record, but their relative importance depends on the type and scale of question under consideration. These factors are most critical at the individual-site level of analysis, where they can account for preference and differential access to goods. They are less important when dealing with a larger scale, such as the cross-cultural comparison of community-wide expressions of cultural behavior. As noted by Deetz, "similarities and differences in this case are not considered in the context of status and occupation, . . . but rather at the more coarse-grained . . . level of international comparisons" and the form assumed by various cultures in different regions (1993:164).

The Convento de San Francisco (SA-42A)

For the past 300 years, the site of the Convento de San Francisco has occupied a prominent position along the Matanzas Bay at the northeastern edge of the colonial city of St. Augustine. The site (SA-42A) of this Franciscan monastery is

located in modern St. Augustine at the corners of St. Francis and Marine Streets, property that today houses the State of Florida Department of Military Affairs Headquarters (Figure 6). In 1988, the Florida Museum of Natural History, under the field supervision of Kathleen Hoffman, conducted extensive test excavations in that area of the property known as the "quadrangle" (Hoffman 1990, 1992). These excavations yielded a total of 186 seventeenth-century contexts including a barrel well, a well construction pit, postmolds, and construction trenches (Appendix 1).

The Convento de San Francisco served as the center of operations for the Franciscan mission effort in La Florida during the sixteenth, seventeenth, and eighteenth centuries. In this capacity, the monastery played a vital role as an intermediary between the outlying missions and the secular town of St. Augustine. As mission headquarters, it also served as a guest house for visiting church officials and it functioned as both a training center for new friars prior to their departure for their respective mission stations in the provinces of Timucua, Guale, and Apalachee and as a hospice for ill and elderly friars (Matter 1972:11).

Although it was administratively and ecclesiastically linked with the missions, the monastery differed from them in two important ways. First, it was located within the urban, Spanish town of St. Augustine, rather than in a remote Indian village. Secondly, the Convento de San Francisco consisted of

a community of friars who interacted on a daily basis with the predominantly European population of the Spanish town, whereas the Franciscans assigned to the missions were isolated from other lay and religious Spaniards.

Little is known documentarily about the sixteenth century monastery, except that it was constructed in 1588, one year after the arrival of the first significant group of Franciscan missionaries. The friary was dedicated to the Immaculate Conception (La Concepción) in 1592, and seven years later, in 1599, a fire destroyed both the convento and chapel. Neither were rebuilt until the very early years of the seventeenth century. In 1606, the Custody of Santa Elena was formed and the mission field was extended west to encompass the Apalachee province. The Convento de San Francisco became the principal convent of this newly formed custody, which included convents in Florida and Cuba (Geiger 1937:227). By 1610, construction of the second monastery had been completed and two years later, King Philip of Spain expanded the administrative duties of the friary when he designated it as a Capitular or Province House (Geiger 1937:187; Mohr 1928:221).

Another fire destroyed the convento in 1620, but it was quickly rebuilt with the "tremendous assistance and alms" provided by the Governor of Florida (Pesquera 1621). By mid century, between 35 and 40 missionaries were attached to the monastery (Charles 1928:222; Gannon 1983:57; Thomas 1990:378).

The actual number of priests who permanently lived at the friary remains unclear, as does the number of lay persons attached to it. During his 1675 visita, Bishop Gabriel Díaz Vara Calderón reported that "three monks, a superior, a preacher, a lay brother, and . . . three curates for the three principal languages of these provinces" resided at the Franciscan convent and administered to the Indians living in St. Augustine (Wenhold 1936:7).

The historical record also indicates the presence of an African servant as early as 1589, and during the seventeenth century, at least two male African slaves and an eighteen year old male mulatto slave were assigned to the convento (Cooper 1962:7; Rueda 1660; St. Augustine Parish Records 1654, 1655). ^{not in bib} Given the use of Native American laborers by the Franciscan missionaries in general (Lyon 1977:118-119; Matter 1973:31), it is possible that Indians also may have worked at the convento or lived nearby. In 1702, the church and convento were briefly occupied as headquarters for the British army during Colonel James Moore's siege of St. Augustine and consequently destroyed by fire during the British retreat from the town, less than two months after their initial attack (Arnade 1959:37,53-61). An English soldier, attached to one of Moore's regiments, described the church and convento as "large enough to hold 700 to 800 men" (Boniface 1971:78) and several documents mention a library of "Greek and Latin Fathers" as being lost in the fire (Shea 1886:460).

The Lorenzo Josef de León Site (SA26-1)

The de León site is situated approximately one block to the west of the Matanzas River near the southern end of the 16th century colonial town of St. Augustine. Today, the site is on a lot bounded by Bravo Lane to the north, Aviles Street to the south, Charlotte Street on the west, and Marine Street on the east, and houses a private residence. (Figure 6). Beginning in 1977 and continuing until 1981, Florida State University conducted four separate archaeological excavation projects at the de León site (Braley 1978; Caballero and Zierden 1979; Singleton 1976; Zierden 1979). Although the primary purpose of these excavations was to recover spatial patterns and material culture associated with the 16th century town, evidence relating to the seventeenth century domestic occupation was also identified. The proveniences used in this study included trashpits, a well, a well construction pit, postmolds, and several areas of unknown function. Appendix 1 lists the functions and dates of the 70 seventeenth-century deposits included.

The Trinity Episcopal Site (SA34-1)

Like the Lorenzo Josef de León site, this property also lies within the borders of the sixteenth century town. The Trinity Episcopal site is located one block south of the modern town plaza of St. Augustine, and is bounded by St. George Street to the west, Cadiz Street on the south,

Artillery Lane on the north and by the Oldest Store Museum to the east (Figure 6). The lot is presently occupied by the Episcopal Church playground. Initial archaeological tests by Florida State University took place from April until September of 1977 under the supervision of Dale Benton (Deagan 1978), and were continued in the spring of 1978 under the supervision of Maurice Williams (Williams 1979), during the spring and summer of 1980 under the supervision of Richard Vernon (Vernon 1980, 1980a), and again in 1981 under the supervision of Charlie Stevens (Stevens 1981). During these excavations, a total of 43 seventeenth century closed context proveniences were identified, including a well and associated construction pit, and several deposits with unknown functions (Appendix 1).

The Ximénez-Fatio House Site (SA34-2)

The Ximénez-Fatio site is located on Aviles Street in modern St. Augustine (Figure 6), and is centered within the sixteenth century town boundaries as defined by previous archaeological research (Deagan 1980). The property has been continuously occupied since the late 1500s (King and Gaske 1980:1). Without a doubt, the Fatio site is one of the most intensively excavated sites within St. Augustine today owing to the active interest of the current property owners, the Florida Chapter of the National Society of the Colonial Dames of America. The Colonial Dames are accurately restoring and depicting the later history of the site. Since 1972, Florida

State University and The University of Florida have conducted 11 seasons of excavation at the Fatio Site (Table 8). The majority of this research focused on either the sixteenth or nineteenth century components, but a total of 27 seventeenth-century proveniences have been identified during these excavations (Appendix 1). These included trashpits, postmolds, and several pits and areas with undetermined functions.

The Palm Row Site (SA36-4)

The Palm Row site is situated approximately four blocks to the southwest of the modern town plaza and is bounded by Palm Row to the south and St. George Street to the east (Figure 6). Excavations were conducted by Florida State University during the spring and summer of 1978 with Charles Poe as the Field Supervisor (Poe 1979). A total of 60 seventeenth-century deposits was identified during this excavation, including postmolds, a trashpit, a construction trench, and areas with an unknown function (Appendix 1). Archaeological evidence indicates that the Palm Row site has been continuously occupied from the sixteenth through the twentieth centuries.

The Cofradía Site (SA30-3)

The Cofradía site is located in the heart of the sixteenth-century colonial town at 230 Charlotte Street

(Figure 6). Archaeological excavations, under the direction of Kathleen Deagan, were conducted by the University of Florida Field School in Historical Archaeology during the spring of 1990 (Napoleon 1990). The Historic St. Augustine Preservation Board continued the excavations during the summer of that same year (Napoleon 1990a). Most of the material used in this study came from a well or its associated construction pit (Appendix 1).

As with most of the sites included in this study, little is known regarding the earliest occupations of this site. However, historical information suggests that this property was owned by the Confraternity of the Blessed Sacrament during the seventeenth century (Parker 1990). It remains unclear whether this property functioned as one of several rental properties owned by the cofradía or actually served as the location of the cofradía itself (Susan Parker, personal communication, 1993).

The O'Reilly House Site (SA35-1)

The O'Reilly House site is located at 131 Aviles Street at the intersection of Bravo Lane and Aviles Street, on property owned by the Sisters of St. Joséph Convent (Figure 6). Excavations, under the direction of Kathleen Deagan and the supervision of Darcie MacMahon, were conducted by Florida State University during the spring of 1981 (MacMahon 1981). The one test pit excavated at the site yielded a total of 20

seventeenth-century proveniences, including a well and its associated construction pit, three postmolds, and several pits and deposits with unknown functions (Appendix 1). Archaeological data suggest a domestic occupation beginning in the late sixteenth century.

The next chapter presents the results of the analysis of the archaeological assemblages associated with the seven sample sites, including their functional associations and temporal trends.

CHAPTER 6
THE ARCHAEOLOGICAL CHARACTERIZATION OF THE SEVENTEENTH-CENTURY
MATERIAL ASSEMBLAGE FROM ST. AUGUSTINE SITES

In order to address the first of the questions outlined in Chapter 5, it was necessary to order and characterize the archaeological data from each site. The results of that process are summarized in this chapter using a comparative temporal framework of early seventeenth and late seventeenth century divisions. As previously mentioned, the late sixteenth-century assemblage has already been ordered and characterized by Deagan (1985), and will therefore not be discussed in this particular chapter. It will, however, be included in the following chapter.

The seven sites included in this study yielded a total of 467 seventeenth-century proveniences, which in turn yielded a total of 13,704 artifacts. Approximately 24% of these items dated to the first half of the century and 76% were associated with the late seventeenth-century deposits. The relative frequencies of artifacts, by major functional groups and time period are discussed below. A complete list of all of items, by major functional groups and time period, from each of the sites can be found in Appendices 2 and 3.

The material patterns represented at the seven sites in the sample revealed significant differences between the early and late seventeenth-century assemblages. The most obvious distinctions were found in the intensity of occupation as represented by the number of identifiable proveniences and the volume of material recovered. Approximately 23% of both the deposits and materials dated to the early seventeenth century while 77% were associated with the latter half of the century.

Site excavation strategies and the difficulty in distinguishing between late sixteenth and early seventeenth-century deposits and artifacts, as discussed in chapter 5, probably account for some of these differences. However, these distinctions also reflect increases in population number and diversity during the latter half of the century. As noted in chapter 4 (see Table 6), the population of St. Augustine grew from approximately 300 to 500 people in 1607 (Dunkle 1958) to over 1200 by the end of the century (Dunkle 1958). Along with this increase in the number of people who lived in the town came the expansion of the town boundaries, the intensification of the Franciscan mission effort with St. Augustine as the headquarters, the building and enlargement of additional private dwellings and public buildings, and the construction of an imposing and vital new fort, the Castillo de San Marcos (Arana and Manucy 1977; Deagan 1990; Deagan, Bostwick and Benton 1976). These changes in the population and in the cultural landscape undoubtedly affected both the quantity of

proveniences and the amount of goods that entered the St. Augustine archaeological record.

Characterization of the Early Seventeenth-Century Assemblage

As shown in Table 9, the Convento de San Francisco site exhibited the least amount of diversity in terms of the categories of artifacts represented. Only three categories were identified from the early seventeenth-century assemblages, including kitchen wares, architectural items, and clothing. The Josef de León site exhibited the most diversity in that eight categories of artifacts were represented. In all seven of the sites, pottery dominated both the entire early seventeenth-century assemblage and the kitchen group. This is not surprising given the predominance of ceramics on Spanish colonial sites in general (Fairbanks 1977:141-142), and the relatively high frequency of ceramics noted for sixteenth and eighteenth-century Spanish sites in Florida and the Caribbean (Deagan 1983, 1985, 1992; Ewen 1991; South 1977). The relative proportions of kitchen-related items ranged from 83% from the Convento de San Francisco site to 96% from the Palm Row Site. The comparatively low frequency of kitchen wares from the Convento de San Francisco site can be attributed to the

Table 9. Characterization of Early 17th Century Assemblages by Functional Categories

| Group | Convento de San Francisco | | Trinity Episcopal | | Fatio House | | Josef de León | | Palm Row | | Total | |
|--------------------|---------------------------|-----|-------------------|-----|-------------|-----|---------------|-----|----------|-----|-------|-----|
| | # | % | # | % | # | % | # | % | # | % | # | % |
| Kitchen | | | | | | | | | | | | |
| Majolica | 13 | 10 | 70 | 7 | 14 | 7 | 74 | 5 | 10 | 5 | 181 | 6 |
| Utilitarian | 14 | 11 | 259 | 27 | 63 | 31 | 706 | 49 | 43 | 20 | 1145 | 38 |
| Tableware | 1 | 1 | 20 | 2 | 4 | 2 | 28 | 2 | 5 | 2 | 58 | 2 |
| Native American | 97 | 74 | 597 | 63 | 117 | 57 | 670 | 43 | 150 | 69 | 1631 | 53 |
| Food Preparation | 6 | 5 | 5 | 1 | 5 | 3 | 14 | 1 | 8 | 4 | 38 | 1 |
| Subtotal | 131 | 83 | 951 | 94 | 203 | 91 | 1552 | 95 | 216 | 96 | 3053 | 94 |
| Architecture | 24 | 15 | 55 | 5 | 10 | 4 | 80 | 5 | 7 | 3 | 176 | 5 |
| Weaponry | 0 | 0 | 0 | 0 | 0 | 0 | 1 | <1 | 0 | 0 | 1 | <1 |
| Clothing | 3 | 2 | 6 | 1 | 2 | 1 | 2 | <1 | 0 | 0 | 13 | <1 |
| Personal | 0 | 0 | 0 | 0 | 2 | 1 | 1 | <1 | 0 | 0 | 3 | <1 |
| Activities | 0 | 0 | 2 | 0 | 0 | 0 | 2 | <1 | 1 | <1 | 5 | 1 |
| Furniture Hardware | 0 | 0 | 1 | <1 | 0 | 0 | 1 | <1 | 0 | 0 | 2 | <1 |
| Tools | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Toys | 0 | 0 | 0 | 0 | 1 | <1 | 2 | <1 | 0 | 0 | 3 | <1 |
| Tack | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Religious | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 158 | 100 | 1015 | 100 | 223 | 100 | 1641 | 100 | 224 | 100 | 3261 | 100 |

increased proportion of architecture related artifacts found in the early seventeenth-century contexts at that site, as noted on the following page.

The majority of the kitchen-related artifacts consisted of either European utilitarian wares (38%) or Native American ceramics (53%). Most of the utilitarian wares (almost 90%) consisted of storage vessels, such as glazed and unglazed Olive Jar and Spanish Storage Jar sherds (Table 10). El Morro, Redware, and various untyped glazed and unglazed coarse-earthenware vessels were also present in the early assemblage.

Table 10. Distribution of Utilitarian Wares from Seventeenth-Century Contexts

| Item | Early 17th | | Late 17th | |
|--------------------------|------------|--------|-----------|--------|
| | # | % | # | % |
| El Morro | 4 | 0.35 | 63 | 3.27 |
| Unglazed Olive Jar | 709 | 61.92 | 1443 | 74.88 |
| Glazed Olive Jar | 178 | 15.55 | 182 | 9.44 |
| Redware | 3 | 0.26 | 5 | 0.26 |
| Spanish Storage Jar | 139 | 12.14 | 10 | 0.52 |
| UID Unglazed Earthenware | 93 | 8.12 | 173 | 8.98 |
| UID Glazed Earthenware | 5 | 0.44 | 8 | 0.42 |
| UID Lead Glazed | 14 | 1.22 | 40 | 2.08 |
| UID Lead/Tin Glazed | 0 | 0.00 | 3 | 0.16 |
| Total | 1145 | 100.00 | 1927 | 100.00 |

As shown in Table 11, Native American pottery accounted for a little over half of all of the items. Although more specific information regarding the origins of this group can

Table 11. Distribution of Native American pottery from Seventeenth-Century Contexts

| Item | Early 17th | | Late 17th | |
|------------------------------|------------|-------|-----------|-------|
| | # | % | # | % |
| St. Johns Plain | 371 | 22.76 | 874 | 14.26 |
| St. Johns Stamped | 516 | 31.65 | 733 | 11.96 |
| St. Johns Incised | 0 | 0.00 | 2 | 0.03 |
| St. Johns Punctated | 0 | 0.00 | 1 | 0.02 |
| St. Johns UID | 0 | 0.00 | 2 | 0.03 |
| San Marcos Plain | 260 | 15.94 | 1127 | 18.40 |
| San Marcos Stamped | 305 | 18.70 | 2501 | 40.84 |
| San Marcos Red Filmed | 5 | 0.31 | 15 | 0.25 |
| San Marcos Incised | 1 | 0.06 | 16 | 0.26 |
| San Marcos Punctated | 0 | 0.00 | 8 | 0.13 |
| San Marcos Burnished | 0 | 0.00 | 2 | 0.03 |
| San Marcos Cord Marked | 0 | 0.00 | 1 | 0.02 |
| San Marcos UID | 3 | 0.18 | 18 | 0.29 |
| Leon Jefferson Stamped "A" | 1 | 0.06 | 1 | 0.02 |
| Leon Jefferson Stamped "D" | 0 | 0.00 | 4 | 0.07 |
| Leon Jefferson Incised | 0 | 0.00 | 2 | 0.03 |
| Leon Jefferson Stamped | 6 | 0.37 | 8 | 0.13 |
| Miller Plain | 3 | 0.18 | 1 | 0.02 |
| Mission Red Filmed | 2 | 0.12 | 25 | 0.41 |
| Colono Ware | 1 | 0.06 | 10 | 0.16 |
| Sand Tempered Plain | 29 | 1.78 | 205 | 3.35 |
| Sand Temper Stamped | 2 | 0.12 | 15 | 0.25 |
| Sand Temper Incised | 1 | 0.06 | 6 | 0.09 |
| Sand Temper Punctated | 0 | 0.00 | 3 | 0.05 |
| Sand Temper Red Filmed | 0 | 0.00 | 1 | 0.02 |
| Sand Temper Burnished | 0 | 0.00 | 4 | 0.07 |
| Sand/Grit Temper Plain | 3 | 0.18 | 102 | 1.67 |
| Sand/Grit Temper Stamped | 0 | 0.00 | 3 | 0.05 |
| Grit Temper Plain | 31 | 1.90 | 62 | 1.01 |
| Grit Temper Stamped | 0 | 0.00 | 33 | 0.54 |
| Grit Temper Incised | 1 | 0.06 | 2 | 0.03 |
| Grit Temper Red Filmed | 0 | 0.00 | 1 | 0.02 |
| Grit/Grog Temper Plain | 0 | 0.00 | 1 | 0.02 |
| Grit/Limestone Temper Plain | 0 | 0.00 | 1 | 0.02 |
| Grog Temper Plain | 9 | 0.55 | 73 | 1.19 |
| Grog Temper Stamped | 2 | 0.12 | 6 | 0.09 |
| Grog Temper Incised | 0 | 0.00 | 2 | 0.03 |
| Shell Temper Plain | 1 | 0.06 | 1 | 0.02 |
| Shell Temper Stamped | 0 | 0.00 | 4 | 0.07 |
| Shell/Sand Temper Plain | 0 | 0.00 | 2 | 0.03 |
| Shell/Sand Temper Stamped | 0 | 0.00 | 2 | 0.03 |
| Shell/Grit Temper Plain | 0 | 0.00 | 6 | 0.09 |
| Sand/Shell Temper Red Filmed | 0 | 0.00 | 1 | 0.02 |
| Fiber Temper Plain | 0 | 0.00 | 27 ? | 0.44 |
| Fiber Temper Stamped | 0 | 0.00 | 6 | 0.09 |
| Limestone Temper Plain | 0 | 0.00 | 8 | 0.13 |

Table 11. Continued

| | | | | |
|-------------------------------------|------|--------|------|--------|
| Mica Temper Plain | 2 | 0.12 | 0 | 0.00 |
| Grit/Mica Temper Plain | 1 | 0.06 | 0 | 0.00 |
| Quartz Temper Plain | 1 | 0.06 | 0 | 0.00 |
| Quartz Temper Stamped | 2 | 0.12 | 0 | 0.00 |
| Deptford Stamped | 1 | 0.06 | 0 | 0.00 |
| Lamarlike Incised | 8 | 0.49 | 19 | 0.31 |
| Ocmulgee Fields Incised | 1 | 0.06 | 1 | 0.02 |
| Orange Fiber Temper | 2 | 0.12 | 4 | 0.07 |
| Ft. Walton Incised | 0 | 0.00 | 1 | 0.02 |
| Ft. Walton Punctated <i>No slip</i> | 0 | 0.00 | 1 | 0.02 |
| Altamaha | 0 | 0.00 | 1 | 0.02 |
| Irene Incised | 1 | 0.06 | 1 | 0.02 |
| Irene Punctated | 0 | 0.00 | 1 | 0.02 |
| UID Irene | 5 | 0.31 | 5 | 0.08 |
| UID Plain | 12 | 0.74 | 109 | 1.78 |
| UID Stamped | 19 | 1.17 | 3 | 0.05 |
| UID Incised | 19 | 1.17 | 7 | 0.11 |
| UID Punctated/Incised | 1 | 0.06 | 0 | 0.00 |
| UID Punctated | 1 | 0.06 | 0 | 0.00 |
| UID Red Filmed | 1 | 0.06 | 32 | 0.52 |
| UID Decorated | 0 | 0.00 | 1 | 0.02 |
| UID Burnished | 1 | 0.06 | 10 | 0.16 |
| Total | 1631 | 100.00 | 6124 | 100.00 |

be found in the following section, the majority of items were either St. Johns or San Marcos pottery (Table 11). Previous research has demonstrated that San Marcos supplemented European cooking and storage vessels that were often not available in colonial St. Augustine (Otto and Lewis 1974:102-103). It has also been suggested that St. Johns pottery served a similar function during the early years of the colony (Herron 1978). Although some of the cooking pots may have been metal or wood, the amount of Native American pottery along with the relatively low proportion of European utilitarian wares indicates a reliance on Indian vessels for food preparation activities, or the presence of Native Americans for preparing food.

In addition to the European utilitarian and Native American vessels, majolica and other European tablewares were also represented in the early seventeenth-century assemblage. Majolicas constituted only 6% of the kitchen-related items, while European tablewares and food preparation items combined accounted for the remaining 3%. Columbia Plain, Ichtucknee Blue on White, Sevilla Blue on Blue and Unidentified White tin enamel represented the most frequently occurring majolica (Table 12) in the early seventeenth century, but other types, such as Fig Springs Polychrome, Mexico City White, San Luis Blue on White, Santo Domingo Blue on White, Santa Elena Blue on White and various unidentifiable majolicas were also present in the assemblage.

Table 12. Distribution of Majolica from Seventeenth-century Contexts

| Item | Early 17th | | Late 17th | |
|-----------------------------|------------|--------|-----------|--------|
| | # | % | # | % |
| Abo Polychrome | 0 | 0.00 | 22 | 2.50 |
| Aucilla Polychrome | 0 | 0.00 | 17 | 1.93 |
| Caparra Blue | 0 | 0.00 | 4 | 0.45 |
| Columbia Plain | 35 | 19.35 | 54 | 6.13 |
| Columbia Plain Gunmetal | 1 | 0.55 | 0 | 0.00 |
| Fig Springs Polychrome | 7 | 3.87 | 34 | 3.86 |
| Green tin enamel | 0 | 0.00 | 1 | 0.11 |
| Ichucknee Blue on White | 31 | 17.14 | 50 | 5.68 |
| Isabela Polychrome | 0 | 0.00 | 4 | 0.45 |
| Ligurian Blue on Blue | 0 | 0.00 | 3 | 0.34 |
| Mexico City Blue on Cream | 0 | 0.00 | 2 | 0.22 |
| Mexico City Green on Cream | 0 | 0.00 | 2 | 0.22 |
| Mexico City White | 0 | 0.00 | 36 | 4.08 |
| Puaray | 0 | 0.00 | 2 | 0.22 |
| Puebla Blue on White | 0 | 0.00 | 1 | 0.11 |
| Puebla Polychrome | 0 | 0.00 | 82 | 9.31 |
| Santo Domingo Blue on White | 10 | 5.52 | 10 | 1.14 |
| Santa Elena Blue on White | 1 | 0.55 | 1 | 0.11 |
| Sevilla Blue on Blue | 33 | 18.24 | 52 | 5.90 |
| Sevilla Blue on White | 0 | 0.00 | 4 | 0.45 |
| Sevilla White | 5 | 2.76 | 6 | 0.68 |
| San Luis Blue on White | 8 | 4.42 | 61 | 6.92 |
| San Luis Polychrome | 0 | 0.00 | 27 | 3.06 |
| Yayal Blue on White | 1 | 0.55 | 11 | 1.25 |
| UID Morisco | 0 | 0.00 | 3 | 0.34 |
| UID Mexico City | 0 | 0.00 | 22 | 2.50 |
| UID Puebla | 0 | 0.00 | 10 | 1.14 |
| UID Italianate | 0 | 0.00 | 3 | 0.34 |
| UID Blue on Blue | 0 | 0.00 | 6 | 0.68 |
| UID Blue | 1 | 0.55 | 3 | 0.34 |
| UID Blue on White | 14 | 7.74 | 76 | 8.64 |
| UID Green and Black | 0 | 0.00 | 1 | 0.11 |
| UID Green | 0 | 0.00 | 5 | 0.57 |
| UID Green and White | 0 | 0.00 | 3 | 0.34 |
| UID Polychrome | 5 | 2.73 | 72 | 8.18 |
| UID White | 27 | 14.93 | 128 | 14.54 |
| UID Gray | 1 | 0.55 | 0 | 0.00 |
| UID Majolica | 0 | 0.00 | 47 | 5.34 |
| Bisque | 0 | 0.00 | 16 | 1.82 |
| Total | 181 | 100.00 | 881 | 100.00 |

The most common European tablewares consisted of Mexican Red Painted and Orange Micaceous (Table 13). Other tablewares include two sherds of Guadalajara Polychrome, one sherd of Yunku Plain, three fragments of Porcelain, two Faience sherds, and two pieces of Delft.

Table 13. Distribution of Tablewares from Seventeenth-century Contexts

| Item | Early 17th | | Late 17th | |
|--------------------------|------------|--------|-----------|--------|
| | # | % | # | % |
| Bisque | 0 | 0.00 | 6 | 2.42 |
| Bizcocho | 0 | 0.00 | 1 | 0.40 |
| Plain Delft | 0 | 0.00 | 13 | 5.24 |
| Blue and White Delft | 2 | 3.45 | 13 | 5.24 |
| Polychrome Delft | 0 | 0.00 | 2 | 0.81 |
| Blue and White Faience | 0 | 0.00 | 1 | 0.40 |
| Plain Faience | 2 | 3.45 | 5 | 2.02 |
| Polychrome Faience | 0 | 0.00 | 1 | 0.40 |
| Feldspar Inlaid | 3 | 5.17 | 5 | 2.02 |
| Guadalajara Polychrome | 2 | 3.45 | 11 | 4.44 |
| Melado | 1 | 1.72 | 0 | 0.00 |
| Mexican Red Painted | 18 | 31.05 | 130 | 52.42 |
| Nottingham | 0 | 0.00 | 1 | 0.40 |
| Orange Micaceous | 15 | 25.86 | 17 | 6.85 |
| Plain Porcelain | 0 | 0.00 | 3 | 1.21 |
| Blue and White Porcelain | 3 | 5.17 | 0 | 0.40 |
| European Porcelain | 0 | 0.00 | 1 | 0.40 |
| Export Porcelain | 0 | 0.00 | 2 | 0.80 |
| Japanese Porcelain | 0 | 0.00 | 1 | 0.40 |
| Kraak Porcelain | 0 | 0.00 | 1 | 0.40 |
| Ming Porcelain | 0 | 0.00 | 1 | 0.40 |
| Oriental Porcelain | 0 | 0.00 | 5 | 2.02 |
| Porcelain UID | 0 | 0.00 | 3 | 1.21 |
| Slipware | 0 | 0.00 | 4 | 1.61 |
| Metropolitan Slipware | 0 | 0.00 | 4 | 1.61 |
| Pisan Slipware | 0 | 0.00 | 1 | 0.40 |
| Staffordshire Slipware | 0 | 0.00 | 1 | 0.40 |
| UID Tin Enameled | 10 | 17.24 | 13 | 5.24 |
| Yucatán Colonial | 1 | 1.72 | 0 | 0.00 |
| Yunku Plain | 1 | 1.72 | 1 | 0.40 |
| UID Glazed Earthenware | 0 | 0.00 | 1 | 0.40 |
| Total | 58 | 100.00 | 248 | 100.00 |

Other than ceramics, the material assemblage of the early seventeenth century was sparse and relatively unvaried. Kitchen artifacts dominated the assemblage, and in addition to ceramics, included 43 fragments of glass (Table 14).

Table 14. Distribution of Food Preparation Items from Seventeenth-century Contexts

| Item | Early 17th | | Late 17th | |
|-------------------|------------|--------|-----------|--------|
| | # | % | # | % |
| Green Glass | 21 | 55.27 | 82 | 30.04 |
| Olive Green Glass | 3 | 7.89 | 15 | 5.49 |
| Dark Green Glass | 0 | 0.00 | 10 | 3.67 |
| Light Green Glass | 0 | 0.00 | 5 | 1.83 |
| Clear Glass | 10 | 26.32 | 64 | 23.44 |
| Yellow Glass | 0 | 0.00 | 8 | 2.93 |
| Aqua Glass | 0 | 0.00 | 2 | 0.73 |
| Blue Glass | 0 | 0.00 | 1 | 0.37 |
| Brown Glass | 0 | 0.00 | 1 | 0.37 |
| Amber Glass | 1 | 2.63 | 3 | 1.09 |
| Latticino Glass | 0 | 0.00 | 1 | 0.37 |
| Opaque Red Glass | 0 | 0.00 | 3 | 1.09 |
| Patinated Glass | 3 | 7.89 | 14 | 5.13 |
| UID Glass | 0 | 0.00 | 59 | 21.61 |
| Mano ? | 0 | 0.00 | 1 | 0.37 |
| Metate | 0 | 0.00 | 1 | 0.37 |
| Pot | 0 | 0.00 | 3 | 1.09 |
| Total | 38 | 100.00 | 273 | 100.00 |

The percentages of architectural items recovered from the seven sample sites ranged from 3.12% to 15.19% with a mean of 5.40% (Table 9). As mentioned, the Convento de San Francisco site exhibited the highest proportion of architectural items due to two separate re-buildings of the monastery following devastating fires in 1599 and 1620.

Table 15. Distribution of Architectural Artifacts from
Seventeenth-Century Contexts

| Item | Early 17th | | Late 17th | |
|------------|------------|--------|-----------|--------|
| | # | % | # | % |
| Nail | 142 | 77.45 | 655 | 81.67 |
| Spike | 28 | 15.47 | 107 | 13.34 |
| Tack | 7 | 3.87 | 26 | 3.24 |
| Cotter Pin | 1 | 0.55 | 0 | 0.00 |
| Door plate | 1 | 0.55 | 0 | 0.00 |
| Flat Glass | 0 | 0.00 | 9 | 1.11 |
| Hook | 1 | 0.55 | 1 | 0.13 |
| Ring | 0 | 0.00 | 1 | 0.13 |
| Staple | 0 | 0.00 | 1 | 0.13 |
| Wire | 1 | 0.55 | 2 | 0.25 |
| Total | 181 | 100.00 | 802 | 100.00 |

Nails and spikes comprised the majority of the artifacts in the group, but several tacks, one cotter pin, a door plate, and a hook were also identified (Table 15).

As shown in Table 16, only about 1% of the entire early seventeenth-century assemblage consisted of items that were not related to kitchen or construction activities. Evidence for clothing-related artifacts consisted of five straight pins, four buttons, two aglets, one eye hook, and one thimble. Activities were represented by lead sprue, a strike-o-light, and a fishhook. Personal items included three white clay tobacco pipe fragments; toys included a die and two gaming discs; furniture hardware consisted of two brass tacks; and one lead shot comprised the only weaponry-related artifact recovered from the early seventeenth century.

Table 16. Distribution of Non-Kitchen and Non-Architectural Items from Seventeenth-century Contexts

| Item | Early 17th | | Late 17th | |
|---------------------------|------------|--------|-----------|--------|
| | # | % | # | % |
| Weaponry | | | | |
| Gunflint | 0 | 0.00 | 2 | 28.57 |
| Musketball | 0 | 0.00 | 1 | 14.29 |
| Projectile Point | 0 | 0.00 | 1 | 14.29 |
| Shot | 1 | 100.00 | 3 | 42.86 |
| Subtotal | 1 | 100.00 | 7 | 100.00 |
| Clothing | | | | |
| Aglet | 2 | 15.38 | 10 | 9.80 |
| Bordado | 0 | 0.00 | 1 | 0.98 |
| Buckle | 0 | 0.00 | 2 | 1.96 |
| Button | 4 | 30.77 | 7 | 6.86 |
| Button back | 0 | 0.00 | 1 | 0.98 |
| Button blank | 0 | 0.00 | 41 | 40.20 |
| Eye hook | 1 | 7.69 | 1 | 0.98 |
| Grommet | 0 | 0.00 | 1 | 0.98 |
| Needle | 0 | 0.00 | 1 | 0.98 |
| Pin | 5 | 38.46 | 36 | 35.20 |
| Shoe | 0 | 0.00 | 1 | 0.98 |
| Thimble | 1 | 7.69 | 0 | 0.00 |
| Subtotal | 13 | 100.00 | 102 | 100.00 |
| Personal | | | | |
| Bead | 0 | 0.00 | 11 | 22.92 |
| Earring | 0 | 0.00 | 1 | 2.08 |
| Fan Slat | 0 | 0.00 | 1 | 2.08 |
| Medallion | 0 | 0.00 | 1 | 2.08 |
| Pipe | 3 | 100.00 | 34 | 70.84 |
| Subtotal | 3 | 100.00 | 48 | 100.00 |
| Activity | | | | |
| Chert | 0 | 0.00 | 1 | 9.09 |
| Core | 0 | 0.00 | 1 | 9.09 |
| Debit | 1 | 20.00 | 3 | 27.27 |
| Fishhook | 2 | 40.00 | 0 | 0.00 |
| Fishing Weight | 0 | 0.00 | 1 | 0.00 |
| Flint | 0 | 0.00 | 1 | 9.09 |
| Hasp | 0 | 0.00 | 1 | 9.09 |
| Hook | 0 | 0.00 | 1 | 9.09 |
| Hoop | 0 | 0.00 | 2 | 18.18 |
| Rope | 0 | 0.00 | 1 | 9.09 |
| Sprue | 1 | 20.00 | 0 | 0.00 |
| Strike-o-lite | 1 | 20.00 | 0 | 0.00 |
| Subtotal | 5 | 100.00 | 12 | 100.00 |
| Furniture Hardware | | | | |
| Tack | 2 | 100.00 | 12 | 92.30 |
| Hasp | 0 | 0.00 | 1 | 7.70 |
| Subtotal | 2 | 100.00 | 13 | 100.00 |
| Tools | | | | |
| Core | 0 | 0.00 | 1 | 33.33 |

Table 16. Continued

| | | | | |
|------------------|----------|--------------|----------|---------------|
| Knife | 0 | 0.00 | 1 | 33.33 |
| Spear | <u>0</u> | <u>0.00</u> | <u>1</u> | <u>33.33</u> |
| Subtotal | 0 | 0.00 | 3 | 100.00 |
| Toys | | | | |
| Dice | 1 | 33.33 | 0 | 0.00 |
| Gaming disc | <u>2</u> | <u>66.67</u> | <u>2</u> | <u>100.00</u> |
| Subtotal | 3 | 100.00 | 2 | 100.00 |
| Religious | | | | |
| Rosary Bead | <u>0</u> | <u>0.00</u> | <u>1</u> | <u>100.00</u> |
| Subtotal | 0 | 0.00 | 1 | 100.00 |

Manufacturing Locations of Pottery

The early seventeenth-century proveniences yielded a total of 3261 ceramic sherds. As shown in Table 17 and 18, and noted on the previous pages, vessels manufactured by the Native Americans of La Florida dominated the pottery assemblage. St. Johns pottery, a chalky ware tempered with sponge spicules, and manufactured by the Timucuan Indians who lived in and around St. Augustine (Goggin 1958:99-105), represented 58% of the native American ceramics. San Marcos, a coarse quartz-tempered ware believed to have been made by the Native Americans of coastal Georgia (Smith 1948:314-316), represented 37%. The remaining Indian pottery consisted of various types of unknown manufacture, and included plain, burnished or stamped wares tempered with grit, sand, or grog. Only one piece of colono-ware was recovered from the early proveniences and twelve sherds (0.74%) from Apalachee Province were identified.

The second most frequent place of origin for ceramics was Europe. Not surprisingly, almost all of the European pottery was manufactured in Spain, and only a few sherds originated in England or France (Table 17). The most common Spanish ceramics included both glazed and unglazed Olive Jar (76%) and Spanish Storage Jar (12%) fragments.

Pottery from New Spain comprised only approximately 1% of the entire ceramic assemblage, and most of these ceramics were types generally categorized as Mexico City wares (83%).

Table 17. Origins of Pottery from Early 17th Century Assemblages

| Origin | Convento de San Francisco | | Trinity Episcopal | | Fatio House | | Josef de León | | Palmer Row | | Total | |
|-----------------------------|---------------------------|-----|-------------------|-----|-------------|-----|---------------|-----|------------|-----|-------|-----|
| | # | % | # | % | # | % | # | % | # | % | # | % |
| Asia | 0 | 0 | 1 | 0 | 0 | 0 | 2 | <1 | 0 | 0 | 3 | <1 |
| E Spain | 19 | 100 | 304 | 100 | 67 | 100 | 734 | 99 | 38 | 100 | 1162 | 99 |
| U England | 0 | 0 | 0 | 0 | 0 | 0 | 2 | <1 | 0 | 0 | 2 | <1 |
| O France | 0 | 0 | 0 | 0 | 0 | 0 | 2 | <1 | 0 | 0 | 2 | <1 |
| P Subtotal | 19 | 100 | 304 | 100 | 67 | 34 | 738 | 48 | 38 | 100 | 1166 | 40 |
| N Mexico City | 4 | 100 | 8 | 73 | 7 | 100 | 11 | 73 | 4 | 80 | 34 | 81 |
| E Puebla | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| W Tonalá | 0 | 0 | 1 | 9 | 0 | 0 | 0 | 0 | 1 | 20 | 2 | 5 |
| S Yucatán | 0 | 0 | 1 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| P Unknown | 0 | 0 | 1 | 9 | 0 | 0 | 4 | 7 | 0 | 0 | 5 | 12 |
| I Subtotal | 0 | 0 | 11 | 1 | 7 | 4 | 0 | 0 | 5 | 2 | 42 | 1 |
| N Unknown Europe or America | 5 | 4 | 28 | 3 | 7 | 4 | 113 | 7 | 15 | 7 | 168 | 6 |
| L Timucua | 47 | 48 | 341 | 65 | 32 | 27 | 402 | 60 | 64 | 43 | 886 | 58 |
| A Guale/Mocamo | 23 | 24 | 181 | 34 | 74 | 63 | 213 | 32 | 84 | 56 | 575 | 37 |
| F Apalachee | 1 | 1 | 0 | 0 | 1 | 1 | 10 | 1 | 0 | 0 | 12 | 1 |
| O Colono | 0 | 0 | 0 | 0 | 0 | 0 | 1 | <1 | 0 | 0 | 1 | <1 |
| R Other | 26 | 27 | 7 | 1 | 10 | 9 | 44 | 7 | 2 | 1 | 89 | 6 |
| I Subtotal | 97 | 78 | 529 | 61 | 117 | 59 | 670 | 44 | 150 | 72 | 1563 | 53 |
| D Total | 125 | 100 | 873 | 100 | 198 | 100 | 1538 | 100 | 208 | 100 | 2942 | 100 |

Table 18. Origins of Native American pottery

| | Early 17th | | Late 17th | |
|--------------|------------|--------|-----------|--------|
| | # | % | # | % |
| Timucua | 886 | 54.32 | 1611 | 26.31 |
| Guale/Mocamo | 575 | 35.25 | 3688 | 60.22 |
| Apalachee | 12 | 0.74 | 41 | 0.67 |
| Colono | 1 | 0.06 | 10 | 0.11 |
| Unknown | 157 | 9.63 | 774 | 12.64 |
| Total | 3015 | 100.00 | 6124 | 100.00 |

The most prevalent Mexico City wares included Mexican Red Painted (43%), San Luis Blue on White (19%), Fig Springs Polychrome (17%), and El Morro (10%) sherds. No ceramics manufactured in Puebla were identified, but two sherds of Guadalajara Polychrome, an unglazed painted ware believed to have been manufactured in Tonalá (Deagan 1983; Fairbanks 1972) and one Yunku Plain sherd, which was probably produced in the Yucatán (Singleton 1977), were recovered from the early seventeenth-century contexts. The remaining pottery consisted of unglazed and glazed coarse earthenwares of unknown European manufacture.

Characterization of the Late Seventeenth-century Assemblage

The distribution of artifacts in the late seventeenth century exhibited several distinct differences from that of the previous period. Although, as shown in Table 19, the proportion of many of the categories remained similar, dramatic differences were observed in the proportions of

Table 19. Characterization of Late 17th Century Assemblages by Functional Categories

| Group | Convento de San Francisco | | Trinity Episcopal | | Fatio House | | Josef de León | | Palm Row | | Cofradía | | O'Reilly | | Total | |
|--------------------|---------------------------|-----|-------------------|----|-------------|-----|---------------|-----|----------|-----|----------|-----|----------|-----|-------|-----|
| | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % |
| Kitchen | | | | | | | | | | | | | | | | |
| Majolica | 238 | 12 | 23 | 9 | 76 | 7 | 195 | 8 | 41 | 7 | 236 | 10 | 72 | 12 | 881 | 9 |
| Utilitarian | 272 | 14 | 49 | 19 | 174 | 16 | 671 | 27 | 108 | 17 | 545 | 22 | 108 | 18 | 1927 | 20 |
| Tableware | 27 | 1 | 7 | 2 | 49 | 4 | 44 | 2 | 19 | 3 | 64 | 3 | 38 | 7 | 248 | 3 |
| Native American | 1326 | 70 | 180 | 67 | 802 | 70 | 1540 | 62 | 425 | 70 | 1489 | 62 | 362 | 61 | 6124 | 65 |
| Food Preparation | 62 | 3 | 11 | 92 | 37 | 3 | 49 | 27 | 18 | 3 | 82 | 4 | 14 | 2 | 273 | 3 |
| Subtotal | 1925 | 85 | 270 | 95 | 1138 | 95 | 2499 | 93 | 611 | 94 | 2416 | 89 | 594 | 94 | 9453 | 91 |
| Architecture | 248 | 10 | 12 | 4 | 48 | 4 | 180 | 7 | 35 | 5 | 245 | 9 | 32 | 5 | 802 | 8 |
| Weaponry | 1 | 0 | 1 | 0 | 1 | <1 | 1 | 0 | 0 | 0 | 3 | <1 | 0 | 0 | 7 | <1 |
| Clothing | 67 | 3 | 0 | 0 | 2 | <1 | 6 | 0 | 2 | 0 | 23 | 1 | 2 | <1 | 102 | 1 |
| Personal | 15 | 1 | 0 | 0 | 5 | <1 | 5 | 0 | 5 | 1 | 16 | <1 | 2 | <1 | 48 | <1 |
| Activities | 3 | 0 | 1 | 0 | 3 | <1 | 2 | 0 | 0 | 0 | 3 | <1 | 0 | 0 | 11 | <1 |
| Furniture Hardware | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 10 | <1 | 0 | 0 | 13 | <1 |
| Tools | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | <1 |
| Toys | 0 | 0 | 0 | 0 | 1 | <1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | <1 |
| Tack | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Religious | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | <1 |
| Total | 2263 | 100 | 284 | 99 | 1200 | 100 | 2697 | 100 | 653 | 100 | 2716 | 100 | 630 | 100 | 10443 | 100 |

utilitarian wares and Native American pottery. The actual types of pottery did not change appreciably, but the frequency of utilitarian wares as a group decreased by almost half, from approximately 38% to 20% of the entire assemblage. Glazed and unglazed Olive Jar sherds accounted for approximately 84% of the late seventeenth-century utilitarian wares, unglazed coarse earthenware comprised approximately 9%, and various untyped lead glazed pottery constituted approximately 2% of the assemblage.

The proportion of Native American pottery represented the second major distinction between the early and late seventeenth-century assemblages. As shown in Table 19, Native American ceramics accounted for more than half of the total seventeenth century and well over half of all the kitchen-related artifacts. More specific information regarding the origins and cultural affiliations of this pottery group can be found in the next section. Notably absent from almost all of the site assemblages were colono wares, an unglazed coarse earthenware pottery manufactured by either African slaves or Native Americans that exhibited traditional European vessel forms (Ferguson 1977:68; Vernon 1988:77).

This type of ware, which can be plain or decorated with a red film (Smith 1951:171), represents a consistent and significant element of the seventeenth-century mission assemblages of San Luis de Talimalí (McEwan 1993: 295-321; Vernon and Cordell 1993:418-442) and of Santa Catalina de

Santa María on Amelia Island (Saunders 1992). Its significantly smaller quantity in seventeenth-century St. Augustine upholds previous suggestions that colono ware represented a "mission-related phenomenon" (Deagan 1990:239; 1993:101; Vernon and Cordell 1993). ^{not in bib}

Apart from the ceramics, the material assemblage of the late seventeenth century, like that of the earlier contexts, was meager. The frequency of architectural items increased somewhat (from 5% to 8%). Almost all of the artifacts (95%) in this group consisted of nails and spikes, which may signal a growth, albeit small, in construction activities during the late seventeenth century or a shift in the locations of structures on the property. It may also indicate that the buildings represented by these items fell apart in the late 1600s. Other architectural items included one fragment of flat glass, tacks, a staple, a hook, and an iron ring of unknown function. Table 15 shows the distribution of items, by time period, included in the Architecture Group.

The non-kitchen and non-architecture related artifacts combined accounted for only about 2% of the entire late seventeenth-century collection (Table 18). Despite their relatively small overall distributions, the actual numbers of artifacts in the weaponry, clothing, and personal groups increased somewhat and appeared to be more diverse (Tables 16 and 18). Whereas only one lead shot was found in the earlier contexts, the late seventeenth-century arms group included

lead shot, gunflints, and a musketball. When compared with the early seventeenth-century clothing group, the later clothing category also exhibited slightly more diversity.

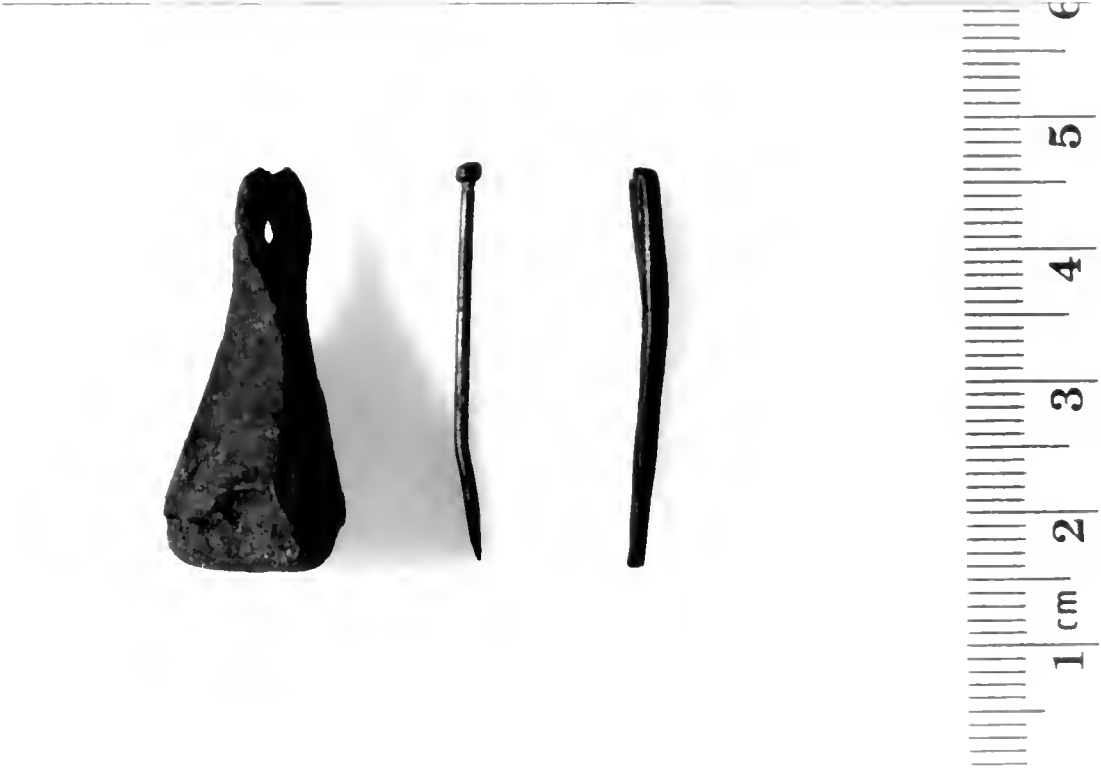
Among the items of clothing recovered from the late contexts were straight pins, aglets, bordado, buckles, buttons, bone button backs and forms, a needle, and part of a leather shoe (Figures 7 and 8). Personal items included several items not found in the earlier contexts, including a fan slat, an earring, a medallion, and several beads. A lead fishing weight (Figure 8) was also recovered from a late seventeenth-century context.

In addition, an analysis of this group also reveals a rather dramatic increase in the number of white clay tobacco pipe stems and pipe bowl fragments. The early seventeenth-century activities group consisted only of three pipe stems, but thirty four pipe stems or bowls were associated with the later contexts. Clay pipes are a common and popular component of seventeenth-century British colonial sites in North America (Deetz 1993; Noël Hume 1985:296). Although tobacco smoking was common among Spaniards, pipes were not used or made in Spain (Deetz 1993:4). Instead tobacco was smoked from cigars that were "rolled into the shape of a cornet" (Braudel 1979: 262). The appearance of clay pipes, which are known to have been manufactured in England, Holland and in seventeenth-century Virginia and Maryland (Deetz 1993:92-101), therefore

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Figure 7. Example of Lead Fishing Weight, Straight Pin, and Aglet from 17th Century Contexts (Photo by J. Quine, Reproduced with Permission of the Florida Museum of Natural History)

Figure 8. Example of Bordado from 17th Century Contexts (Photo by J. Quine, Reproduced with Permission of the Florida Museum of Natural History)



indicates trade with neighboring British colonies or other non-Spanish sources. Perhaps more importantly, it also signals the adoption by Spanish colonists of an Anglo practice.

Manufacturing Locations of the Pottery

A total of 12,130 sherds were recovered from the seven sites included in this study. Of these, 9183 or 76% dated to the latter half of the 1600s (Appendix 4). The late seventeenth-century assemblage exhibited several important distinctions from that associated with the early seventeenth century. As a whole, the late seventeenth-century assemblage contained less pottery manufactured in Europe. Approximately 21% of all of the ceramics recovered from late proveniences consisted of European wares. Although Spanish pottery, specifically Olive Jar and Spanish Storage Jars continued to dominate the European assemblage, the proportion of pottery manufactured in England did increase somewhat (Table 19). French Faience accounted for less than 1% of the entire European pottery recovered from the late seventeenth century, an amount comparable to that associated with the early 1600s.

Although American-made wares represented a major proportion (60%) of the early seventeenth-century pottery, they clearly dominated the late seventeenth-century pottery assemblage. Over three quarters (79%) of all of the ceramics from late contexts consisted of American-made pottery types,

Table 20. Origins of Pottery from Late 17th Century Assemblages

| Origin | Convento de San Francisco | | Trinity Episcopal | | Fatio House | | Josef de León | | Palm Row | | Cofradía | | O'Reilly | | Total | |
|---------------------------|---------------------------|-----|-------------------|-----|-------------|-----|---------------|-----|----------|-----|----------|-----|----------|-----|-------|-----|
| | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % |
| Asia | 0 | 0 | 0 | 0 | 3 | <1 | 1 | <1 | 1 | <1 | 6 | 3 | 2 | <1 | 13 | <1 |
| E Spain | 277 | 99 | 46 | 98 | 162 | 96 | 714 | 99 | 84 | 91 | 484 | 96 | 108 | 100 | 1875 | 97 |
| U England | 4 | 1 | 1 | 2 | 5 | 3 | 8 | 1 | 7 | 8 | 14 | 3 | 0 | 0 | 39 | 2 |
| R France | 0 | 0 | 0 | 0 | 1 | 1 | 1 | <1 | 2 | 1 | 3 | 1 | 0 | 0 | 7 | 1 |
| O P Italy | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 108 | 19 | 0 | 0 |
| E Subtotal | 281 | 15 | 47 | 18 | 168 | 15 | 723 | 29 | 93 | 16 | 501 | 21 | 45 | 83 | 1921 | 21 |
| N Mexico City | 63 | 53 | 8 | 42 | 52 | 73 | 46 | 55 | 14 | 45 | 106 | 54 | 7 | 13 | 334 | 58 |
| E Puebla | 42 | 35 | 5 | 26 | 9 | 13 | 22 | 27 | 2 | 6 | 27 | 14 | 0 | 0 | 114 | 20 |
| W Tonalá | 5 | 4 | 2 | 10 | 0 | 0 | 3 | 4 | 0 | 0 | 1 | <1 | 1 | 2 | 11 | 2 |
| S Yucatán | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | <1 |
| P A Unknown | 9 | 8 | 4 | 21 | 10 | 14 | 12 | 14 | 15 | 48 | 64 | 32 | 1 | 2 | 115 | 20 |
| I N Subtotal | 119 | 6 | 19 | 7 | 71 | 6 | 83 | 3 | 31 | 5 | 198 | 8 | 54 | 9 | 575 | 6 |
| Unknown Europe or America | 140 | 8 | 13 | 5 | 57 | 5 | 103 | 4 | 48 | 8 | 140 | 6 | 54 | 9 | 555 | 6 |
| L Timucua | 478 | 36 | 44 | 24 | 126 | 16 | 528 | 34 | 67 | 16 | 324 | 22 | 44 | 12 | 1611 | 26 |
| A Guala/Mocamo | 428 | 32 | 119 | 66 | 599 | 75 | 910 | 59 | 258 | 61 | 1071 | 72 | 303 | 84 | 3688 | 60 |
| F Apalachee | 10 | 1 | 0 | 0 | 2 | <1 | 12 | 1 | 0 | 0 | 17 | 1 | 0 | 0 | 41 | 1 |
| L O Colono | 0 | 0 | 0 | 0 | 3 | <1 | 1 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | <1 |
| R I Other | 410 | 31 | 17 | 10 | 72 | 9 | 89 | 6 | 100 | 24 | 77 | 5 | 15 | 4 | 780 | 13 |
| D A Subtotal | 1326 | 71 | 180 | 70 | 802 | 72 | 1540 | 63 | 425 | 71 | 1489 | 64 | 362 | 62 | 6124 | 67 |
| Total | 1866 | 100 | 259 | 100 | 1101 | 100 | 2450 | 100 | 598 | 100 | 2334 | 100 | 580 | 100 | 9188 | 100 |

including both Spanish-American and Native-American wares (Table 19). Although ceramics produced in New Spain accounted for only 6% of the entire assemblage, when compared with the early period, the proportion of Spanish American ceramics more than quadrupled in the late 1600s.

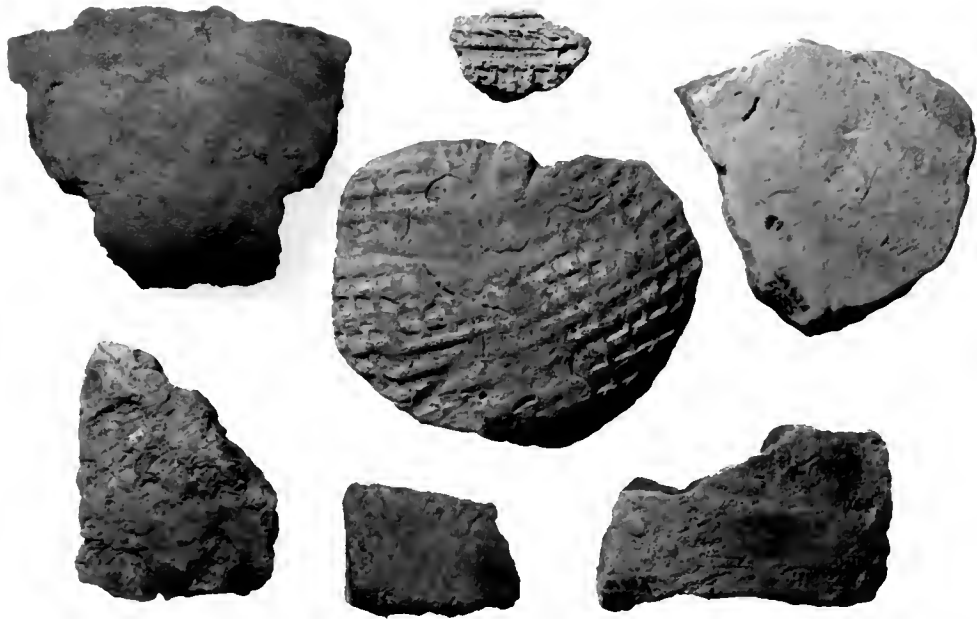
The later assemblage also exhibited more diversity in terms of manufacturing locale. Whereas, the overwhelming majority (83%) of the early seventeenth-century Spanish-American ceramics consisted of types manufactured in Mexico City and none from Puebla, the percentage of pottery from Puebla during the latter half of the 1600s increased to 20% while Mexico City wares decreased to 58%.

Another noticeable difference was found in the dramatic increase in Spanish American lead-glazed coarse earthenwares and various untyped majolicas with non-Spanish paste whose exact place of production remains unknown. Detailed analysis of the paste of these as yet untyped tin enamels and coarse earthenwares, which was beyond the scope of this study, may provide important clues as to their manufacturing origins. More diversity was also apparent in the relative frequencies of various types of Native American pottery.

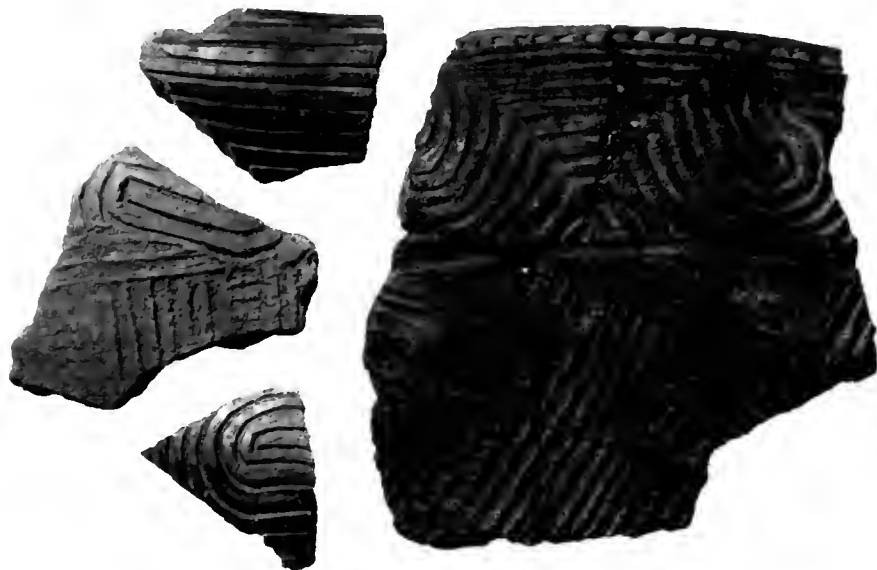
As shown in Table 19, ceramics manufactured in La Florida accounted for 67% of the entire late seventeenth-century assemblage (Figures 9 and 10). However, the most dramatic difference between the early and late assemblages

Figure 9. Examples of Grog-Tempered Pottery from 17th Century Contexts (Photo by J. Quine, Reproduced with Permission of the Florida Museum of Natural History)

Figure 10. Examples of Non-Local Native American Pottery from 17th Century Contexts (Photo by J. Quine, Reproduced with Permission of the Florida Museum of Natural History)



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

appeared in the relative proportions of pottery types traditionally associated with the people who resided in the provinces of Timucua and Guale. In contrast to the earlier period, where St. Johns series pottery dominated, the most frequently occurring pottery type in the latter part of the century were the San Marcos Series that were manufactured by the native Americans from Guale (Smith 1948:314-316. Approximately 60% of all of the Native American pottery was identified as San Marcos with stamped wares comprising the most frequently occurring type (68%). San Marcos Plain accounted for 31% of the pottery from Guale/Mocamo and the remaining 1% consisted of red-filmed, incised, punctated, burnished, or sherds too small to determine their decorative motifs.

This replacing of the Timucuan St. Johns wares with the San Marcos pottery produced by Native Americans from Guale is not surprising given what is already known regarding this phenomenon. Preliminary analyses of seventeenth-century household assemblages in St. Augustine have all noted the replacement of St. Johns pottery with ceramics associated with the San Marcos series by the latter half of the 1600s, and have attributed it to the demise of the local Timucuan people and the movement of refugee groups from Guale to the St. Augustine area (Cochrane 1981; Deagan 1990; Hoffman 1990; King 1981).

Since indigenous ceramics in Spanish households functioned primarily as cooking and food preparation pots, this replacement may also signal an increase in the presence of Native American women from Guale in the town. Very little is known about Native American women in St. Augustine except that they intermarried with Spanish men, worked as household servants, and sold goods at a central marketplace (Bushnell 1981:11; Deagan 1973, 1983, 1985, 1990). Although it is difficult to demonstrate concretely, it is possible to suggest that the increase in ceramics manufactured by people from Guale reflects the emergence of Native American women from Guale as important economic and social forces within the town.

Final mention needs to be made regarding the proportions of Native American pottery that did not include types traditionally associated with the people who lived in the provinces of Timucua or Guale. This category of non-local Native American wares included ceramics typically produced by people living in the province of Apalachee and types of unknown origins. As shown in Table 20, the proportions of these non-local wares increased from approximately 10% to 13% of the entire Native American assemblage. Although the percentages of these non-local types were similar, the later assemblage contained a greater variety of types than in the earlier period.

Although sand-tempered plain and grit-tempered wares continued to be the dominant elements, grog-tempered pottery, red filmed, Lamarlike Incised, Ocmulgee Fields Incised, Altamaha, and a variety of shell, mica, and limestone-tempered plain sherds were also recovered from the late seventeenth-century contexts. In his analysis of Indian pottery from the Trinity Episcopal site in St. Augustine, Piatek reported a similar increase in the frequency of non-local wares during the seventeenth century, and suggested a correlation between the presence of non-local wares and changes in the tribute system (1985:81-89).

The increase, albeit slight, in non-local wares during the late 1600s most likely reflects the increased mission activity that took place during the period. It may also be indicative of the movement and consolidation of various Native American groups to the St. Augustine area that began at the very end of the late seventeenth century and continued into the eighteenth century. The early 1600s saw a steady increase in the number of Franciscans stationed in La Florida and in the number of doctrinas established along the coastal region of Georgia and Florida. By 1632, approximately 40 missions were established and a mission road existed that connected these outlying missions with the Franciscan monastery in St. Augustine (Gannon 1987:49). As noted in chapter 4, Native Americans from the provinces of Timucua and Guale were brought

to St. Augustine throughout the late sixteenth century to provide construction, agricultural, and other services for the Spaniards. This practice of drafting Indian labor continued into the seventeenth century and eventually included men and women from Timucua, Guale, and Apalachee provinces.

The distribution of Apalachee ceramics is particularly interesting in the remarkably similar proportions in both the early and late seventeenth century (Table 20). In both periods, Apalachee pottery accounted for less than 1% of all of the La Florida wares. This low proportion of Apalachee pottery in the seventeenth-century town of St. Augustine is important because of its implications for internal trade in La Florida and interactions between the province of Apalachee and the presidio of St. Augustine. The relative absence of pottery from the western provinces of Florida suggests that the people of St. Augustine did not interact as intensively with the native people of Apalachee province, and that little trade involving pottery existed between Apalachee and St. Augustine.

Faunal Remains from Seventeenth-Century Sites

Additional evidence for the apparent absence of widespread trade between St. Augustine and the province of Apalachee is seen in the zooarchaeological record (Reitz 1993). A comparative assessment of the faunal remains from

seventeenth-century St. Augustine and the Apalachee mission of San Luis de Talimalí, conducted by Elizabeth Reitz (1993a, 1993b) revealed the presence of less beef than would be expected if la Chua, Apalachee, and the other ranches supplied St. Augustine. Although the St. Augustine assemblages may pre-date the emergence of cattle ranches and the settlement of Apalachee, the zooarchaeological evidence also suggests that it was "unlikely that the interior missions played a major role in the subsistence strategy" of seventeenth-century St. Augustine (Reitz 1993b:92).

Reitz' (1993a) preliminary assessment of the vertebrate fauna from two early and late seventeenth-century contexts in St. Augustine also indicated several distinctions between the monastery and secular communities. Before summarizing these distinctions, it is important to note the limited, and potentially biased nature of this record from seventeenth-century St. Augustine. As shown in Table 21, seventeenth-century faunal data have been analyzed from only three sites in St. Augustine, the Fatio House (SA34-2), the Palm Row site (SA36-4), and the Convento de San Francisco (SA42A). In addition, it is not known whether the material from the first two sites date to the early or late seventeenth century. It is therefore possible that these assemblages pre-date the development of cattle ranches and the westward expansion of the mission system.

Table 20.. Origins of Pottery from Late 17th Century Assemblages

| Origin | Convento de San Francisco | | Trinity Episcopal | | Fatio House | | Josef de León | | Palm Row | | Cofradía | | O'Reilly | | Total | |
|---------------------------|---------------------------|-----|-------------------|-----|-------------|-----|---------------|-----|----------|-----|----------|-----|----------|-----|-------|-----|
| | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % |
| Asia | 0 | 0 | 0 | 0 | 3 | <1 | 1 | <1 | 1 | <1 | 6 | 3 | 2 | <1 | 13 | <1 |
| E Spain | 277 | 99 | 46 | 98 | 162 | 96 | 714 | 99 | 84 | 91 | 484 | 96 | 108 | 100 | 1875 | 97 |
| U England | 4 | 1 | 1 | 2 | 5 | 3 | 8 | 1 | 7 | 8 | 14 | 3 | 0 | 0 | 39 | 2 |
| R France | 0 | 0 | 0 | 0 | 1 | 1 | 1 | <1 | 2 | 1 | 3 | 1 | 0 | 0 | 7 | 1 |
| O P Italy | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 108 | 19 | 0 | 0 |
| E Subtotal | 281 | 15 | 47 | 18 | 168 | 15 | 723 | 29 | 93 | 16 | 501 | 21 | 45 | 83 | 1921 | 21 |
| N Mexico City | 63 | 53 | 8 | 42 | 52 | 73 | 46 | 55 | 14 | 45 | 106 | 54 | 7 | 13 | 334 | 58 |
| E Puebla | 42 | 35 | 5 | 26 | 9 | 13 | 22 | 27 | 2 | 6 | 27 | 14 | 0 | 0 | 114 | 20 |
| W Tonalá | 5 | 4 | 2 | 10 | 0 | 0 | 3 | 4 | 0 | 0 | 1 | <1 | 1 | 2 | 11 | 2 |
| S Yucatán | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | <1 |
| P Unknown | 9 | 8 | 4 | 21 | 10 | 14 | 12 | 14 | 15 | 48 | 64 | 32 | 1 | 2 | 115 | 20 |
| A Subtotal | 119 | 6 | 19 | 7 | 71 | 6 | 83 | 3 | 31 | 5 | 198 | 8 | 54 | 9 | 575 | 6 |
| Unknown Europe or America | 140 | 8 | 13 | 5 | 57 | 5 | 103 | 4 | 48 | 8 | 140 | 6 | 54 | 9 | 555 | 6 |
| L Timucua | 478 | 36 | 44 | 24 | 126 | 16 | 528 | 34 | 67 | 16 | 324 | 22 | 44 | 12 | 1611 | 26 |
| A Guale/Mocamo | 428 | 32 | 119 | 66 | 599 | 75 | 910 | 59 | 258 | 61 | 1071 | 72 | 303 | 84 | 3688 | 60 |
| F Apalachee | 10 | 1 | 0 | 0 | 2 | <1 | 12 | 1 | 0 | 0 | 17 | 1 | 0 | 0 | 41 | 1 |
| L Colono | 0 | 0 | 0 | 0 | 3 | <1 | 1 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | <1 |
| O Other | 410 | 31 | 17 | 10 | 72 | 9 | 89 | 6 | 100 | 24 | 77 | 5 | 15 | 4 | 780 | 13 |
| R Subtotal | 1326 | 71 | 180 | 70 | 802 | 72 | 1540 | 63 | 425 | 71 | 1489 | 64 | 362 | 62 | 6124 | 67 |
| A Total | 1866 | 100 | 259 | 100 | 1101 | 100 | 2450 | 100 | 598 | 100 | 2334 | 100 | 580 | 100 | 9188 | 100 |

The diet of the townspeople depended on locally available resources, especially those from the sea. Although pork and beef were used, the diet consisted primarily of gopher tortoises, drums, sea catfishes, mullets, and deer, and remained relatively unchanged through the seventeenth century (Reitz 1992:90). In contrast, the diet of the friars living at the Convento de San Francisco, the mission headquarters in St. Augustine, exhibited a very different pattern than that shared by the rest of town. The friars diet with its heavy reliance on venison and chicken, both of which were expensive (Reitz 1993:11) and rare in the samples associated with the non-secular households of St. Augustine, more closely resembled that associated with the outlying missions. This suggests the existence of a mission supply network directed toward the Convento that included only the Franciscan community of St. Augustine (Reitz 1993a:92).

Summary of the Seventeenth-Century Material Assemblage

The majority of material recovered from the six household and one religious site consisted of ceramics that reflected domestic activities, and in particular, foodway behavior. Several factors can account for the preponderance of pottery in the seventeenth-century archaeological record, the most obvious of which are their durability and importance in Spanish foodways. Other factors include adverse conditions

for the preservation of perishable materials, such as wood and cloth; the relative poverty of the people who lived in the community; the types of sites excavated; and the excavation and sampling strategies used at these sites.

Certain other expected attributes -- mostly non-ceramic -- were curiously absent. In general, the material assemblage from seventeenth-century St. Augustine suggests a material life limited in its variety, and indicates little in the way of luxury, wealth, or entertainment. Despite St. Augustine's function as a presidio, few items related to its military nature were found. While the sparse amount of weaponry-related artifacts may be related to site function, occupants, and sampling strategies, it does suggest limited access to firearms and ammunition.

Items indicative of the Catholicism that represented such an meaningful part of life in the colonial town were also surprisingly absent. Only one identifiably religious item was recovered from the seventeenth-century sites, a rosary bead from a domestic household at the de León site (SA26-1). No evidence of sacred objects was found at the Franciscan monastery site, the one religious site included in the sample. The absence of religious paraphernalia, particularly at the monastery, is most likely related to the care given to these objects, and to the types of material used in their construction. Apparently, many of the sacred objects, such as

cruets, were made of glass and would probably not be recognizable as such in the archaeological record. Although glass was recovered from several seventeenth-century contexts, only 4 fragments provided enough evidence to determine the possible function of the original object, and none of these consisted of explicitly religious items (Figure 11).

Other religious items were made of wood, which does not preserve well (McEwan 1992:103). In addition, there was no archaeological evidence for the African population of the town. The lack of any explicitly religious or military artifacts and the current invisibility of Africans in the data underscores the inability of the archaeological record to reveal aspects of the community known to be present in the past, such as the monastery, soldiers, and Africans.

The ceramic assemblages, nevertheless, provide an index of intersite social variability and changing patterns of life during the 1600s. A fairly reliable index of social differentiation has been derived from the better-documented eighteenth-century community of St. Augustine, where household sites can be correlated with specific individuals, ethnic affiliation, and income levels (Deagan 1983). This index is based on the relative proportions of majolica and Native American pottery present in any given household assemblage. This strategy has also been applied to the undocumented sixteenth-century sites (Deagan 1985).

Figure 11. Glass from 17th Century Contexts (Photo by Pat Payne)



When ranked according to these guidelines, the eighteenth-century sites occupied by people with the highest incomes had the largest proportion of majolica, while those occupied by people with the lowest incomes exhibited the largest proportion of Native American wares. Statements concerning the ethnic identity of the residents are more difficult to make. However, there is a correlation between the proportion of Native American ceramics and the presence of Native American women in the household (Deagan 1992). By referring to this eighteenth-century baseline data, some general statements concerning varying economic levels and access to material goods during the seventeenth century can be made.

Tables 22 and 23 show the proportions of majolica and Native American ceramics for each of the sample sites by time period. During both the early and late 1600s, the assemblages from the secular households showed a roughly inverse correlation between the amounts of these two categories of pottery. Based on these data, there appears to have been little economic differentiation between the occupants of the Palm Row, Trinity, Fatio and de León sites through time. During the late seventeenth century, the people who lived at the Cofradía and O'Reilly sites experienced a somewhat higher standard of living relative to the other households represented in the sample.

The assemblage from the Convento de San Francisco, however, revealed atypical proportions of majolica and Native American pottery throughout the century. This reflects its

Table 22. Ranked Order of Early 17th Century Sites According to Proportions of Majolica and Native American Pottery (Convento set apart by virtue of its distinct non-domestic function).

| Site | Majolica | Native American |
|-----------|----------|-----------------|
| (Convento | 10% | 74%) |
| Palm Row | 5% | 69% |
| Trinity | 7% | 63% |
| Fatio | 7% | 56% |
| de León | 5% | 52% |

Table 23. Ranked Order of Late 17th Century Sites According to Proportions of Majolica and Native American Pottery (Convento set apart by virtue of its distinct non-domestic function).

| Site | Majolica | Native American |
|-----------|----------|-----------------|
| (Convento | 12% | 68%) |
| O'Reilly | 12% | 61% |
| Cofradía | 10% | 62% |
| Trinity | 9% | 67% |
| de León | 8% | 62% |
| Fatio | 7% | 70% |
| Palm Row | 7% | 70% |

role as a mission headquarters and formal institution of the Spanish Crown.

It is interesting to note that no religious subsidy arrived in 1633 (see Table 5 in Chapter 4), the year that the Franciscan mission effort expanded to Apalachee province, and

that during the next 20 years, payments were extremely unreliable. Yet during this same period, the assemblage from the Franciscan monastery yielded the highest proportion of Spanish majolica, an item ostensibly obtainable only through the situado, and one thought to be highly symbolic of a Spanish identity (Deagan 1983).

The monastery assemblage also exhibited the greatest percentage of Native American wares. Although it is possible that these figures are biased due to the relatively small sample of early seventeenth-century artifacts, the late seventeenth-century assemblage exhibited this same pattern. Therefore, it seems more likely that these differences are related to the Convento's function as a specialized religious and administrative center.

As a religious community, the population of the monastery differed from that associated with secular household dwellings, in terms of gender and age. Presumably, no women or children lived at the monastery. Yet, the high percentage of Native American pottery at the site indicates a high degree of Franciscan-Indian interaction, and raises the possibility that women may have been responsible for at least some of the domestic duties at the monastery. It also supports the idea put forth by Reitz (1993b) that the Franciscan friars developed trade networks between the mission field and the

monastery that were independent of the secular community of St. Augustine.

The monastery also differed from the secular sites in its roles as a formal institution charged with maintaining and spreading the Christian religion, as a training center for friars, and as a reception area for visiting dignitaries and officials. As such, the place of ritual and tradition assumed great importance, and it is possible that this extended to the acquisition and care of material goods.

Items such as majolica, which signalled a Spanish identity, therefore probably played a more critical role in the religious community of the monastery than in individual families. It is also possible that because provisions for the friars were stored in the royal warehouse by the Franciscan custodian (Bushnell 1981:106), the monks may have had freer access to goods.

Although artifacts relating to "foodways" dominated both the early and late seventeenth-century assemblages, other items of material culture provide at least a glimpse into other aspects of seventeenth-century life in St. Augustine. Fishhooks dating from ca. 1600 trashpits at the de León site and a lead fishing weight from a trashpit at the Convento de San Francisco attest to the relative importance of fishing in the community; the increase in nails, spikes, and tacks through time provides evidence of the growth of construction

activities during the late 1600s, and clay tobacco pipebowls and pipestem fragments signal the adoption of pipe smoking by the Spaniards. Bone button forms and buttons, a common item of trade in St. Augustine's private contract system (Gillaspie 1984), recovered from the Franciscan monastery indicate the friars involvement in the manufacturing and trade of bone buttons.

In addition to these activities, information on household and family composition can be suggested by the types of artifacts found at several of the secular sites. Neither the documentary nor the archaeological records offer any insights into the presence of children at any of the sites included in this study. The only leisure-related artifacts included a die and a ground pottery disc (generally referred to as a "gaming disc") from an early seventeenth-century well construction pit at the Josef de León site (SA26-1), another "gaming disc" from a ca. 1650 trash pit at the same site, and two "gaming discs" from a ca. 1600 trash pit and a ca. 1650 well construction pit, respectively, at the Fatio House site (SA34-2).

Stanley South (1988) reported the presence of dice at the site of Santa Elena, a sixteenth-century Spanish presidio on Parris Island, South Carolina, and noted the documented existence of gambling among the soldiers stationed at Santa Elena. A contemporary document mentioned that "gambling helps

soldiers forget their troubles and makes them stay quiet in the presidio" (South 1988:166). It has also been reported that "gaming discs" were used by Native Americans for gambling purposes (Culin 1907 in South 1988:170), and that this practice may have been adopted by the Spaniards. Based on this, the die and "gaming discs" found in the seventeenth-century contexts in St. Augustine related to adult gambling activities (possibly male) and were not used by children at play.

The absence of identifiably child-related artifacts does not necessarily indicate the complete absence of children at any of the secular sites. Given the importance of family and children to both the Catholic faith and the Spanish culture (McEwan 1991), it is possible that children lived at some of the sites, but that the material correlates of their behavior and activities either do not survive in the archaeological record or are as yet unrecognizable.

The seventeenth-century archaeological record sheds slightly more light on the presence of women at the various sample sites. McEwan (n.d.) has suggested several categories of artifacts that may have belonged to or have been used explicitly by women. In addition to foodway-related artifacts, such as cooking pots, manos and metates, other female-related items may include jewels, rings, precious stones, amber beads, protective amulets, and sewing implements. McEwan also noted

that "by the 1560's few men were wearing lacing tips" (McEwan nd), thereby suggesting that aglets may be indicators of the presence or absence of women at archaeological sites.

While admittedly inconclusive, several of the sites in the study yielded artifacts that hinted of the presence of women. A thimble was recovered from a ca. 1600 context at the Josef de León site (SA26-1), two aglets were found from the same time period at the Fatio House site (SA34-2), and four aglets and a mano were recovered from post 1650 well at the de León site (SA26-1). The Cofradía site (SA30-3) offers slightly more tantalizing evidence that the household included at least one woman during the late 1600s. Five aglets, a metate fragment, a sewing needle, an earring, and a slat from a fan were recovered from a post 1650 well and associated construction pit.

In summary, the characterization of the seventeenth-century archaeological record has closed a major gap in our archaeological understanding of colonial life in the community of St. Augustine and seventeenth-century La Florida. It also provided a necessary foundation for assessing the nature of change during the middle period in St. Augustine. The following chapter incorporates data from the previously documented sixteenth century (Deagan 1985) with the seventeenth-century data in order to assess these assemblages within the context of the middle period, and consider their

meaning in relationship to the development of distinctive European-American cultural traditions in the Atlantic world.

CHAPTER 7
COLONIAL CULTURAL DEVELOPMENT IN ST. AUGUSTINE AND IN THE
ATLANTIC COLONIAL WORLD DURING THE MIDDLE PERIOD

Two central issues guided this study, the nature of Spanish-colonial cultural development during the middle period of settlement, and its similarity to or divergence from a comparable period in the Anglo-American colonies of the Atlantic world. The archaeological characterization and synthesis of seventeenth-century St. Augustine provided the material basis for considering the forces that influenced the development of a colonial tradition in Spanish Florida during this post-contact phase, and for considering this development within the context of the Atlantic world.

This characterization and its associated cultural forms, along with the patterns and processes previously documented for the opening years of the middle period (Deagan 1985), are summarized and assessed in this final chapter. The nature of Spanish-colonial cultural development during the middle period in St. Augustine is then compared with existing models of colonial cultural development in the Anglo-American colonies.

As summarized in Table 24, the archaeological record of seventeenth-century St. Augustine did not reveal any

.

Table 24. Summary of the Middle Period Assemblages

| Group | 16th Century (ca. 1570-1600) | | Early 17th Century (ca. 1600-1650) | | Late 17th Century (ca. 1650-1700) | |
|--------------------|---------------------------------|-----|---------------------------------------|-----|--------------------------------------|-----|
| Kitchen | # | % | # | % | # | % |
| Majolica | 612 | 6 | 181 | 6 | 881 | 9 |
| Utilitarian | 3854 | 38 | 1145 | 38 | 1927 | 20 |
| Tableware | 15 | 1 | 58 | 2 | 248 | 3 |
| Native American | 5547 | 55 | 1631 | 53 | 6124 | 65 |
| Food Preparation | 158 | 2 | 38 | 1 | 273 | 3 |
| Subtotal | 10086 | 93 | 3053 | 94 | 9453 | 91 |
| Architecture | 593 | 5 | 176 | 5 | 802 | 8 |
| Weaponry | 41 | <1 | 1 | <1 | 7 | <1 |
| Clothing | 46 | <1 | 13 | <1 | 102 | 1 |
| Personal | 4 | <1 | 3 | <1 | 48 | <1 |
| Activities | 25 | <1 | 5 | 1 | 11 | <1 |
| Furniture Hardware | 9 | <1 | 2 | <1 | 13 | <1 |
| Tools | 0 | 0 | 0 | 0 | 3 | <1 |
| Toys | 0 | 0 | 3 | <1 | 2 | <1 |
| Tack | 0 | 0 | 0 | 0 | 0 | 0 |
| Religious | 0 | 0 | 0 | 0 | 1 | <1 |
| Total | 10804 | 100 | 3261 | 100 | 10442 | 100 |

Note: 16th century data are from Deagan (1985:20).

radical departure from the pattern of material culture previously documented by Deagan (1985) for the opening years of the middle period of settlement. In all three time periods, the proportions of the eleven major functional categories of artifacts remained remarkably similar.

As shown in Table 24, kitchen-related items dominated the assemblages in all three periods, and accounted for over 90% of all the recovered material. Architectural items, predominantly nails and spikes, accounted for less than 10% of all of the assemblages. The remaining categories of weaponry, clothing, personal items, furniture hardware, toys, and religious items, combined, constituted less than 2% of the total number of artifacts recovered from the sample sites.

Within the kitchen group, ceramic artifacts comprised the major component of the archaeological record through the sixteenth and seventeenth centuries. This is not surprising, or unexpected, given the time-honored tradition of ceramic making and usage "that have been characteristic of Spain" since before the eleventh century (Deagan 1987:25; Goggin 1950:6, 1968:5). This tradition represented an integral part of the Spanish cultural system, and became an essential component of the elements carried with the colonists to the Americas (Goggin 1950:6; Lister and Lister 1987). The prevalence of ceramics during the middle period attests to the maintenance of this tradition and underscores the importance of pottery,

throughout colonial times, in the preparation, storage, serving, and transportation of food and food-related items.

The similar nature of the middle period assemblages, in terms of the proportions of various functional activity groups and the preponderance of kitchen-related wares, demonstrates that the basic organization of the material world associated with the middle period did not change significantly through time. The archaeological data do, however, reflect shifts in the economic and social character of St. Augustine during the latter half of the middle period.

Economic changes were seen in the material world as the replacement of Spanish majolica and lead-glazed earthenware with American-made pottery, and an increase in the overall diversity of goods available to the colonists. As shown in Table 25, the proportion of ceramics significantly through time. The archaeological data did, however, reflect shifts in the economic and social character of St. Augustine during the latter half of the middle period.

Economic changes were seen in the material world as the replacement of Spanish majolica and lead-glazed earthenware with American-made pottery, and an increase in the overall diversity of goods available to the colonists. As shown in Table 25, the proportion of ceramics manufactured in Spain decreased through time, while the frequency of pottery manufactured in the Americas increased. The relative

Table 25. Summary of Manufacturing Locations for Pottery from the Middle Period

| Origin | | 16th Century (ca.1570-1600) | | Early 17th Century (ca.1600-1650) | | Late 17th Century (ca.1650-1700) | |
|---|--------------|--------------------------------|-----|--------------------------------------|-----|-------------------------------------|-----|
| | | # | % | # | % | # | % |
| Asia | | 14 | <1 | 3 | <1 | 13 | <1 |
| Spain | | 3585 | 36 | 1162 | 39 | 1875 | 20 |
| N. E u r o p e | England | 0 | 0 | 2 | 50 | 39 | 85 |
| | Germany | 1100 | | 0 | 0 | 0 | 0 |
| | France | 0 | 0 | 2 | 50 | 7 | 15 |
| | Italy | 0 | 0 | 0 | 0 | 1 | <1 |
| | Subtotal | 1 | <1 | 4 | <1 | 46 | 1 |
| N e w S p a i n | Mexico City | 147 | 47 | 34 | 81 | 334 | 58 |
| | Puebla | 0 | 0 | 0 | 0 | 114 | 20 |
| | Tonala | 0 | 0 | 2 | 5 | 11 | 2 |
| | Yucatán | 4 | 1 | 1 | 2 | 1 | <1 |
| | Unknown | 165 | 52 | 5 | 12 | 115 | 20 |
| | Subtotal | 316 | 3 | 42 | 1 | 575 | 6 |
| Unknown Europe or America | | 657 | 7 | 168 | 6 | 558 | 6 |
| L a F l o r i d a | Timucua | 2884 | 53 | 886 | 58 | 1611 | 26 |
| | Guale/Mocamo | 1952 | 36 | 575 | 37 | 3688 | 60 |
| | Apalachee | 0 | 0 | 12 | 1 | 41 | 1 |
| | Colono | 4 | <1 | 1 | <1 | 4 | <1 |
| | Other | 607 | 11 | 89 | 53 | 780 | 13 |
| | Subtotal | 5447 | 54 | 1563 | 53 | 6124 | 67 |
| TOTAL | | 10005 | 100 | 2942 | 100 | 9175 | 100 |

Note: 16th century data are from Deagan (1985:11-12).

proportion of Spanish pottery decreased from 36% during the initial years of the middle period to 20% by the end of the 1600s. This confirms the prediction that the frequency of pottery manufactured in Spain would decrease during the middle period, thus supporting the premise that the middle period represented a time of growing separation from the homeland.

As the frequency of Spanish pottery decreased, the proportions of pottery manufactured in the Americas increased. American-made pottery, including both Spanish-American and Native-American, represented 58% of the ca. 1570-1600 ceramic assemblage, and 55% of the ca. 1600-1650 assemblage. By the end of the 1600s, the relative frequency of ceramics produced in the Americas had increased to 73%.

During the ca. 1570-1600 period, almost half of the identifiable Spanish-American pottery included majolica manufactured in the potteries of Mexico City. By the end of the 1600s, Mexico City wares continued to dominate, but majolica manufactured in other regions of New Spain, most notably Puebla, also appeared in significant amounts in the archaeological record.

The changing proportions of Spanish-American majolica attest to the expanding export market for the colonial majolica industry, and signal the economic importance of Mexico to the Florida colony. More importantly to this study, the increased frequency of pottery manufactured in and obtained from potteries in New Spain confirms the prediction

that the frequency of Spanish-American pottery would increase during the middle period. This, in turn, supports the premise that the colonists gradually became more reliant on Spanish-America, in particular Mexico, during the middle period.

The analyses of the middle period assemblages also revealed a dramatic increase in the quantity and diversity of Native American pottery and, concomitantly, people in St. Augustine during the closing years of the century. During both the ca. 1570-1600 and ca. 1600-1650 time periods, Native American pottery accounted for a little over half of the items associated with the Kitchen activity group (Tables 24 and 25). The majority of this group consisted of St. Johns plain or check stamped vessels manufactured locally by the Timucuan people. Non-local pottery, including both the San Marcos wares that were associated with the Native Americans from Guale, and types unidentified as to precise place of manufacture or origin comprised the remaining proportion of Native American pottery until approximately 1650. The ca. 1650-1700 data revealed an increase in the amount of Native American pottery, and in the relative frequency and diversity of non-local Indian wares (Table 25).

These results support earlier findings (King 1981, 1984) regarding the changing ratios of pottery made by local groups, such as the Timucuans, and that manufactured by people, such as the Guale and Yamassee, who did not traditionally reside in the vicinity of St. Augustine. This increase has been

attributed to changes in the tribute system (Piatek 1985:81-89), the expansion of the repartimiento, the demise of the local Timucuan people, and the consequent movement of refugee groups to the St. Augustine area (Deagan 1990, Hoffman 1990; King 1981). Most likely, the increase in the quantity and diversity of Indian pottery reflects the consolidation and movement of the various Native American groups to the St. Augustine area during the late 1600s, and an increase in the Native American servant population.

Indian pottery in Spanish colonial households replaced traditional Spanish lead-glazed vessels, and was used primarily for cooking, serving, storing, and preparing food. Because the domestic responsibilities associated with these activities fell within the domain of women, the replacement of Spanish lead-glazed vessels with Native American ceramics may also signal an increase in the presence of Native American women in the town. It is also possible that some of this non-local pottery may have been manufactured by Africans, and has just not been recognized as such.

Additional research, including both technological and typological studies, is needed before definitive statements regarding the origins or specific ethnic affiliation of the "non-local" pottery in St. Augustine can be made. Nevertheless, the changes in the percentages and variety of Native American artifacts support the prediction that the proportion of Indian pottery would increase during the middle

period, and provided material evidence of a growing reliance on American resources during the latter half of the middle period. It also reflects the continuation of the process of trait admixture that began early in the contact period (Deagan 1985, 1988, 1994).

The archaeological record also revealed tangible evidence of contraband trade with northern European powers during the middle period. Archaeologically recovered examples of the products of this trade included sherds of English delft and Slipware, French Faience, Italian Slipware, and German Stoneware. White clay tobacco pipes, manufactured in England, provide additional evidence that the people of St. Augustine engaged in illegal trade.

As shown in Table 25, less than 1% of the entire ceramic assemblage during the late sixteenth and early seventeenth centuries consisted of items obtained from northern European countries. The slightly greater presence of English ceramics, primarily Delft and Slipware, during the late seventeenth century reflects the growing English presence in the Atlantic World, especially in areas such as present day Charleston, South Carolina that were within close trading distance to St. Augustine.

The increase in the frequency of clay tobacco pipe fragments during the middle period provides additional evidence of trade between the people of St. Augustine and the British colonial world. No clay pipes were recovered from the

late sixteenth-century contexts, but three fragments were found in early seventeenth-century deposits and 34 were associated with the late seventeenth century.

Their appearance, albeit in small numbers, suggests the adoption by the Spanish colonists of the Anglo practice of smoking tobacco from a pipe. This method of taking tobacco differed from the traditional Spanish practice of cigar smoking (Braudel 1979:260-262), and represents the emergence of a new "criollo" custom, thereby supporting the prediction that an expanding involvement in the Atlantic colonial world would result in the incorporation of new non-Spanish elements.

These changes in the material world support the prediction that non-Spanish diversity should increase, and thus, the premise that the middle period was a time of internal development and separation from Europe. This emerging diversity also reflects the evolution from an economy totally reliant on Spain into one with primary ties to the American colonial world. These processes were influenced, in part, by a more intensive pattern of interaction between the Native America, African, and Spanish residents of St. Augustine and Spanish Florida, and a shift in economic loyalties from Spain to the Americas.

The archaeological data from the middle period in St. Augustine, while revealing patterns of increasing reliance on local resources, also underscore the conservative nature of

Spanish colonial culture. Although change occurred in the economic and social character of the town, these changes do not appear to have altered such core practices as inter-ethnic marriage and the subsequent incorporation of Native American cooking techniques and implements into colonial foodways.

While not able directly to reveal the existence of or incidence of intermarriage, the archaeological record does provide indirect evidence of interaction between the various ethnic groups, in particular the Native American and Spaniards, who lived in the seventeenth-century community. Although the Africans were present in St. Augustine, they are currently invisible in the archaeological record. Archaeological evidence for inter-ethnic interaction is therefore limited to Native Americans and Spaniards, and exists in the form of an increase in the proportion of and use of Native American pottery. Analysis of the St. Augustine Parish marriage records also reveals a steady, but slow growth in the number of marriages between people of different ethnic and racial heritages (see Table 7 in Chapter 5).

The material expressions of the middle period, as exemplified in St. Augustine, do not demonstrate any abrupt transformation in the character and patterns of colonial life established during the initial years of Spanish settlement. Instead, it appears that the underlying structure of the community, in terms of its role as a frontier presidio, the nature of Spanish-Indian interaction, and its economic

relationships, remained intact, yet expanded in order to meet the specific needs of the colonists.

St. Augustine continued to function as a vital link in Spain's plan to protect the treasure fleets on their journey between Spain and the Americas. But its defensive role expanded during the middle period as the existing Franciscan mission system was used to defend Spain's territorial interests in Florida from British encroachment. The mission system was also used to establish new farms and cattle ranches, and to provide Native American labor for agricultural pursuits, construction projects, and domestic services at the missions and in the town. The pattern of intermarriage that began in the early years of settlement also intensified, and the demographic character of the town became increasingly mestizo during the middle period. While it is true that the situado helped sustain the town, new forms of economic activity and relationships were developed to augment the subsidy and to make St. Augustine less dependent on it.

In summary, the material expressions of the framework established during the initial years of settlement became more diverse during the middle period as the colonists made choices, albeit limited by their environment, concerning the use of local (American) resources, and as the degree of interaction between the colonists and the Native American people intensified. The middle period in St. Augustine can thus be described as a time of relative stability as the

people who lived in this frontier community used the existing framework to become increasingly self-reliant, and turned towards their American colonial world and away from their European mother country.

In general, the middle period of development in the Spanish colonies, as revealed through the archaeological record of St. Augustine, shared several characteristics with that associated with the Anglo colonies of the Atlantic world. A comparative analysis of the manufacturing locations of ceramics recovered from St. Augustine, Florida (Tables 17 and 19) and Kingsmill Plantation, Virginia (Table 26) reveals similarities in the ratio of European to American made ceramics. As noted in Table 27, the methods used to organize the ceramics into these categories are an important consideration because they can potentially bias the interpretations and results.

As summarized in Table 27, ceramics obtained from the European parent country accounted for 38% of the collection from Kingsmill Plantation and 32% of the St. Augustine assemblage, while those manufactured in the Americas accounted for 60% and 68%, respectively. Although no quantitative data were reported, a similar pattern was also noted for the Pasbehay Tenement site in Virginia where a "high percentage of locally made (Virginia) earthenware . . . and clay tobacco pipes" were recovered from two ca. 1630 trashpits (Outlaw 1990: 76-77).

26. Origin of Ceramics from Middle Period (ca. 1640-1700)
British Colonial Sites at Kingsmill Plantation, Virginia (from
Kelso 1984:213)

| | Utopia | | Pettus | | Kingsmill Tenement | | TOTAL | |
|-----------------|--------|-----|--------|-----|-----------------------|-----|-------|-----|
| | # | % | # | % | # | % | # | % |
| China | 0 | 0 | 2 | 1 | 5 | 5 | 7 | 2 |
| England | 15 | 30 | 111 | 42 | 33 | 33 | 159 | 38 |
| Other Europe | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| America | 35 | 70 | 152 | 57 | 63 | 62 | 250 | 60 |
| TOTAL | 50 | 100 | 265 | 100 | 101 | 100 | 416 | 100 |

NOTE: Frequencies and Percentages are based on vessel count

Table 27. Comparison of Origins of Ceramics from Kingsmill
Plantation, Virginia and St. Augustine, Florida

| | Kingsmill Plantation, Virginia (ca. 1640-1700) | | St. Augustine, Florida (ca. 1570-1700) | |
|-----------------|--|-----|--|-----|
| | # | % | # | % |
| China | 7 | 2 | 30 | <1 |
| England | 159 | 38 | 51 | <1 |
| Spain | 0 | 0 | 6622 | 32 |
| Other Europe | 0 | 0 | 10 | <1 |
| America | 250 | 60 | 14067 | 68 |
| TOTAL | 416 | 100 | 20780 | 100 |

Notes: Kingsmill data based on vessel counts
St. Augustine data based on sherd counts

The prevalence of a more locally-focused material record at Kingsmill Plantation, Virginia and St. Augustine, Florida does not demonstrate any wholesale transformation of either cultural system. Rather, it indicates the colonists maintained elements of their parent culture while incorporating American traits. However, the traits chosen by the colonists, as reflected in the archaeological record, exhibited distinctive forms in each colonial situation.

The emergence of a more American focus during the middle period suggests that the post-contact phase of settlement throughout the Atlantic world was basically a shared experience across national lines. James Deetz (1977, 1993) portrayed this phase of settlement as a "folk culture" wherein structural change was slow and specific regional expressions of an American identity took root.

In this sense, the experiences of the people in Anglo and Spanish America were similar. No profound differences existed in the ways in which European-American colonists adjusted to America. While the general processes of European-American adjustment and identity development followed the same path in both Spanish and Anglo America, the specific manifestations were different. In both colonial worlds, the middle period represented a time when the colonists made critical decisions regarding their way of life that set them apart from their European contemporaries, and marked their identity as Americans. In both systems, the choices made by

the colonists recognized local realities, and emphasized the use of and reliance on American goods and resources.

In the Virginia colony, these choices were reflected in the archaeological record as an increase in the proportion of locally produced European ceramic vessels and clay tobacco pipes (Kelso 1984; Outlaw 1990), both of which were manufactured in the Virginia colony. In contrast, no known European pottery was manufactured in Florida during the middle period of settlement. Instead, the colonists imported European style pottery from the more cosmopolitan areas of Spanish America, and used ceramics manufactured by Native American groups in Florida.

These differences were influenced by the European cultural system from which the colonists emerged, their isolation from their homeland, and the specific conditions and circumstances of life in the colonies. The increasingly local and regional orientation exhibited distinctive forms in both colonial societies, and appeared to be more pronounced in Anglo-America.

For the most part, people in Spanish-America did not experience a rural tradition. Life was centered in cities, missions, or presidios where the people were not as isolated from each other or from ongoing contact with Spain or other regions of Spanish-America. In addition, Spanish settlement represented a monolithic endeavor guided by mercantile

interests and an evangelical motivation to spread the Catholic faith.

Although there were exceptions, immigration to the Americas was restricted to Spaniards who adhered to Catholic Christian beliefs and principles. This imposed a veil of uniformity over much of Spanish-America, and effected the nature and degree of transculturation between the Native American, European, and African people who lived in the Spanish colonies. Native Americans, and to a lesser extent, Africans, were incorporated into Spanish colonial society. This was not the case in Anglo-America, where the Native American and African people were kept at a distance (Thomas 1985:141).

In addition, from the beginning, British settlement of the Atlantic world was entrepreneurial and rural in character, and exhibited an incredible diversity in terms of the demographic composition of the European immigrants and their religious affiliations. It has been previously noted that these differences lie at the root of contemporary distinctions between the Anglo and Latin worlds (Axtell 1992; Deagan 1988, 1990).

In conclusion, this study has addressed the nature of cultural development in Spanish-America during the middle period of settlement, and compared it to what is known regarding a comparable period in Anglo-America. In particular, it has tested and supported the idea that the evolution of

Spanish-colonial culture, as manifested in the archaeological record of St. Augustine, followed the same trajectory previously documented for Anglo-America (Deetz 1977). In both colonial settings, the middle period represented a time of relative stability during which the colonists continued to adapt to the circumstances and conditions of life in America.

This research also has contributed to and refined our understanding of this phase of settlement by highlighting the cultural forces involved in the emergence of regional European-American traditions and ways of life. Those forces that influenced the decisions made by the European-American colonists, and resulted in the emergence of distinctive colonial identities involved the diversification of the existing framework and separation from the parent country.

Finally, this study provided evidence for a pan-American model of post-contact development that, in its most general form, exhibited the conservative and traditional characteristics of a folk culture. Additional investigations into the nature of cultural development during a comparable period in other parts of Spanish and British America, as well as French and Dutch settlements, are needed in order to determine the specific local choices made by the colonists in these various settings.

APPENDIX 1
SEVENTEENTH CENTURY ST. AUGUSTINE PROVENIENCE GUIDE

| Site | FS# | North | East | Prov | Period | Function |
|-------|-----|-------|------|-----------|--------|----------|
| SA42A | 40 | . | 2 | A8L1 | 17A | Unknown |
| SA42A | 46 | . | 2 | A14L1 | 17A | Unknown |
| SA42A | 52 | . | 2 | A15L1 | 17A | Unknown |
| SA42A | 63 | . | 2 | A16L1 | 17A | Unknown |
| SA42A | 66 | . | 2 | A32L1 | 17A | Unknown |
| SA42A | 105 | . | 1 | A6L1 | 17A | Unknown |
| SA42A | 131 | . | 1 | PPM11 | 17A | Postmold |
| SA42A | 132 | . | 1 | F2L1E | 17A | Trench |
| SA42A | 138 | . | 1 | F2L2 | 17A | Trench |
| SA42A | 139 | . | 1 | PPH1 | 17A | Posthole |
| SA42A | 185 | . | 2 | PPM15 | 17A | Postmold |
| SA42A | 186 | . | 1 | PPM12 | 17A | Postmold |
| SA42A | 196 | . | 1 | PPM17 | 17A | Posthole |
| SA42A | 197 | . | 1 | PPM18 | 17A | Posthole |
| SA42A | 230 | . | 1 | A57L5 | 17A | Posthole |
| SA42A | 236 | . | 1 | A57L6 | 17A | Posthole |
| SA42A | 240 | . | 1 | A57L8 | 17A | Posthole |
| SA42A | 242 | . | 1 | A57L9 | 17A | Posthole |
| SA42A | 243 | . | 1 | A57L10 | 17A | Posthole |
| SA42A | 249 | . | 1 | PPM19 | 17A | Posthole |
| SA42A | 342 | . | 5 | A12L1 | 17A | Unknown |
| SA42A | 344 | . | 5 | A14L1 | 17A | Unknown |
| SA42A | 389 | . | 5 | A14L2 | 17A | Unknown |
| SA42A | 393 | . | 5 | Z3L2 | 17A | Unknown |
| SA42A | 99 | . | 1 | Z4L1 | 17B | Posthole |
| SA42A | 107 | . | 1 | A48L1 | 17B | Unknown |
| SA42A | 108 | . | 1 | A39L1 (W) | 17B | Unknown |
| SA42A | 109 | . | 1 | A39L1 | 17B | Unknown |
| SA42A | 110 | . | 1 | Z4L2 | 17B | Unknown |
| SA42A | 111 | . | 1 | A38L2 | 17B | Pit |
| SA42A | 113 | . | 1 | A39L2 | 17B | Unknown |
| SA42A | 114 | . | 1 | A50L1 | 17B | Pit |
| SA42A | 116 | . | 1 | A50L2 | 17B | Pit |
| SA42A | 117 | . | 1 | A47L1 | 17B | Posthole |
| SA42A | 134 | . | 1 | A50L3 | 17B | Pit |
| SA42A | 136 | . | 1 | A53L1 | 17B | Unknown |
| SA42A | 141 | . | 1 | A47L2 | 17B | Posthole |
| SA42A | 149 | . | 1 | A47L2 | 17B | Posthole |
| SA42A | 169 | . | 1 | A58L1 | 17B | Unknown |
| SA42A | 188 | . | 1 | A50L4 | 17B | Pit |
| SA42A | 191 | . | 1 | A50L5E | 17B | Pit |
| SA42A | 205 | . | 3 | A15L1 | 17B | Pit |
| SA42A | 206 | . | 1 | A47L3 | 17B | Posthole |
| SA42A | 210 | . | 1 | PPM3L3 | 17B | Postmold |
| SA42A | 215 | . | 1 | A47L4E | 17B | Posthole |
| SA42A | 216 | . | 1 | A47L4W | 17B | Posthole |
| SA42A | 220 | . | 1 | A47L5E | 17B | Posthole |
| SA42A | 223 | . | 1 | A47L6W | 17B | Posthole |

| | | | | | | |
|-------|-----|---|---|----------|-----|----------|
| SA42A | 226 | . | 1 | A47L1E | 17B | Posthole |
| SA42A | 227 | . | 3 | A15L2 | 17B | Pit |
| SA42A | 228 | . | 1 | A47L6E | 17B | Posthole |
| SA42A | 238 | . | 3 | A16L2 | 17B | Posthole |
| SA42A | 245 | . | 3 | A15L3 | 17B | Pit |
| SA42A | 250 | . | 3 | A15L4E | 17B | Pit |
| SA42A | 258 | . | 3 | A15L5E | 17B | Pit |
| SA42A | 260 | . | 3 | A15L6 | 17B | Pit |
| SA42A | 267 | . | 1 | A57L1-3 | 17B | Posthole |
| SA42A | 268 | . | 1 | A15L1 | 17B | Surface? |
| SA42A | 272 | . | 1 | A57L4-5 | 17B | Posthole |
| SA42A | 273 | . | 1 | A57L6-11 | 17B | Posthole |
| SA42A | 276 | . | 3 | A15L7 | 17B | Pit |
| SA42A | 277 | . | 1 | A57L11-1 | 17B | Posthole |
| SA42A | 278 | . | 1 | PPM9 | 17B | Postmold |
| SA42A | 285 | . | 3 | A15L8 | 17B | Pit |
| SA42A | 287 | . | 3 | A15L9 | 17B | Pit |
| SA42A | 290 | . | 3 | A15L10 | 17B | Pit |
| SA42A | 303 | . | 4 | A20L1 | 17B | Unknown |
| SA42A | 304 | . | 4 | A22L2 | 17B | Pit |
| SA42A | 305 | . | 4 | A21L2 | 17B | Unknown |
| SA42A | 307 | . | 4 | A23L1 | 17B | Unknown |
| SA42A | 308 | . | 4 | A21L3 | 17B | Unknown |
| SA42A | 310 | . | 4 | A26L1 | 17B | Surface |
| SA42A | 319 | . | 4 | A30L1 | 17B | Trench |
| SA42A | 320 | . | 4 | A29L1 | 17B | Trench |
| SA42A | 331 | . | 4 | A31L1 | 17B | Trench |
| SA42A | 332 | . | 4 | F13L1 | 17B | Trench |
| SA42A | 333 | . | 4 | F13L2N | 17B | Trench |
| SA42A | 335 | . | 4 | F13L3 | 17B | Trench |
| SA42A | 337 | . | 4 | PPM3L1 | 17B | Postmold |
| SA42A | 346 | . | 4 | A31L2 | 17B | Trench |
| SA42A | 350 | . | 5 | PPH1L1 | 17B | Postmold |
| SA42A | 355 | . | 4 | F13L4 | 17B | Trench |
| SA42A | 356 | . | 4 | F13L5N | 17B | Trench |
| SA42A | 357 | . | 4 | F13L5S | 17B | Trench |
| SA42A | 358 | . | 4 | F13L4N | 17B | Trench |
| SA42A | 364 | . | 4 | F13L1 | 17B | Trench |
| SA42A | 365 | . | 5 | Z2L1 | 17B | Unknown |
| SA42A | 366 | . | 5 | Z2L2 | 17B | Unknown |
| SA42A | 367 | . | 5 | A6L3 | 17B | Posthole |
| SA42A | 368 | . | 4 | A22L3 | 17B | Pit |
| SA42A | 369 | . | 4 | F13L6 | 17B | Trench |
| SA42A | 370 | . | 4 | A22L4 | 17B | Pit |
| SA42A | 371 | . | 4 | A22L5 | 17B | Pit |
| SA42A | 374 | . | 4 | A22L6 | 17B | Pit |
| SA42A | 382 | . | 5 | PPM1 | 17B | Postmold |
| SA42A | 383 | . | 5 | PPH1 | 17B | Posthole |
| SA42A | 390 | . | 5 | A18L1 | 17B | Posthole |
| SA42A | 414 | . | 5 | A20L1 | 17B | Posthole |
| SA42A | 415 | . | 5 | A20L2 | 17B | Posthole |
| SA42A | 434 | . | 5 | A6L10 | 17B | Posthole |
| SA42A | 435 | . | 5 | A6LS11 | 17B | Posthole |
| SA42A | 478 | . | 6 | A28L1 | 17B | Pit |
| SA42A | 487 | . | 6 | A32L1 | 17B | Unknown |
| SA42A | 496 | . | 6 | A29L1 | 17B | Pit |
| SA42A | 502 | . | 6 | A33L1 | 17B | Unknown |
| SA42A | 503 | . | 8 | A9L1 | 17B | Unknown |
| SA42A | 504 | . | 8 | A8L1 | 17B | Unknown |
| SA42A | 514 | . | 6 | A31L2 | 17B | Pit |
| SA42A | 521 | . | 8 | A12L1 | 17B | Unknown |
| SA42A | 525 | . | 8 | A10L1 | 17B | Unknown |

| | | | | | | |
|-------|------|---|----|----------|-----|----------|
| SA42A | 537 | . | 8 | A7L1 | 17B | Unknown |
| SA42A | 554 | . | 8 | A14L2 | 17B | Well |
| SA42A | 556 | . | 8 | A10L2 | 17B | Unknown |
| SA42A | 558 | . | 8 | A8L2 | 17B | Unknown |
| SA42A | 566 | . | 11 | Z2L1 | 17B | Well Pit |
| SA42A | 572 | . | 8 | A16L1 | 17B | Well |
| SA42A | 575 | . | 8 | A14L1 | 17B | Well |
| SA42A | 578 | . | 6 | F24L1 | 17B | Pit |
| SA42A | 586 | . | 8 | A8L3 | 17B | Unknown |
| SA42A | 587 | . | 6 | F24L2 | 17B | Pit |
| SA42A | 595 | . | 6 | F24L3 | 17B | Pit |
| SA42A | 611 | . | 6 | F24BL4 | 17B | Pit |
| SA42A | 619 | . | 8 | A14L3 | 17B | Well |
| SA42A | 626 | . | 6 | A38L2 | 17B | Pit |
| SA42A | 630 | . | 6 | A31L3 | 17B | Pit |
| SA42A | 651 | . | 8 | A14L2 | 17B | Well |
| SA42A | 654 | . | 6 | A31L5 | 17B | Pit |
| SA42A | 667 | . | 6 | A26L3 | 17B | Trashpit |
| SA42A | 672 | . | 6 | A38L3 | 17B | Pit |
| SA42A | 673 | . | 6 | A26L4 | 17B | Trashpit |
| SA42A | 674 | . | 6 | PPM8L1 | 17B | Postmold |
| SA42A | 679 | . | 8 | A14L4 | 17B | Well |
| SA42A | 690 | . | 6 | PPM2L2 | 17B | Postmold |
| SA42A | 707 | . | 8 | A19L1 | 17B | Well |
| SA42A | 722 | . | 8 | A14L5 | 17B | Well |
| SA42A | 724 | . | 8 | A18L1 | 17B | Well |
| SA42A | 736 | . | 8 | A14L6 | 17B | Well |
| SA42A | 741 | . | 8 | A24L1 | 17B | Well |
| SA42A | 749 | . | 8 | A25L1 | 17B | Well |
| SA42A | 750 | . | 8 | A24L2E | 17B | Well |
| SA42A | 751 | . | 8 | A25L2 | 17B | Well |
| SA42A | 760 | . | 8 | A25L3W | 17B | Well |
| SA42A | 761 | . | 8 | A25L3E | 17B | Well |
| SA42A | 778 | . | 8 | A25L4E | 17B | Well |
| SA42A | 779 | . | 8 | A25L4W | 17B | Well |
| SA42A | 786 | . | 13 | A11L1 | 17B | Unknown |
| SA42A | 797 | . | 13 | A12L1 | 17B | Unknown |
| SA42A | 800 | . | 13 | A10L1 | 17B | Unknown |
| SA42A | 810 | . | 13 | A10L2W | 17B | Unknown |
| SA42A | 811 | . | 13 | A11L2 | 17B | Unknown |
| SA42A | 822 | . | 13 | A14L1 | 17B | Unknown |
| SA42A | 824 | . | 13 | A13L1 | 17B | Unknown |
| SA42A | 825 | . | 13 | A10L2E | 17B | Unknown |
| SA42A | 831 | . | 13 | A15L1 | 17B | Unknown |
| SA42A | 833 | . | 13 | Z4L1S | 17B | Unknown |
| SA42A | 834 | . | 13 | A13L1S | 17B | Unknown |
| SA42A | 842 | . | 13 | PPM3 | 17B | Postmold |
| SA42A | 843 | . | 13 | PPM5 | 17B | Postmold |
| SA42A | 860 | . | 13 | Z4L4S | 17B | Postmold |
| SA42A | 894 | . | 13 | A15L2MIX | 17B | Unknown |
| SA42A | 951 | . | WU | F31L1 | 17B | Well |
| SA42A | 954 | . | WU | F31L2 | 17B | Well |
| SA42A | 956 | . | WU | F31L3 | 17B | Well |
| SA42A | 958 | . | WU | F31L4 | 17B | Well |
| SA42A | 961 | . | WU | F31L5 | 17B | Well |
| SA42A | 962 | . | WU | F31L6 | 17B | Well |
| SA42A | 963 | . | WU | F31L6 | 17B | Well |
| SA42A | 996 | . | 26 | Z2L1 | 17B | Zone |
| SA42A | 997 | . | 26 | A4L1 | 17B | Unknown |
| SA42A | 998 | . | 26 | A1L1 | 17B | Trashpit |
| SA42A | 1000 | . | 26 | Z3L1 | 17B | Zone |
| SA42A | 1004 | . | 26 | Z3L2 | 17B | Zone |

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|--------|------|-----|-----|--------|-----|----------|
| SA42A | 1016 | . | 26 | F51L1 | 17B | Trashpit |
| SA42A | 1020 | . | 26 | F51L3 | 17B | Trashpit |
| SA42A | 1042 | . | 27 | F53L1 | 17B | WellPit |
| SA42A | 1044 | . | 27 | F53L2 | 17B | Well Pit |
| SA42A | 1045 | . | 27 | F53L3E | 17B | Well Pit |
| SA42A | 1046 | . | 27 | F53L3W | 17B | Well Pit |
| SA42A | 1048 | . | 27 | F53L4E | 17B | Well Pit |
| SA42A | 1057 | . | 27 | F53L5 | 17B | Well Pit |
| SA42A | 1067 | . | 27 | A6L1 | 17B | Well Pit |
| SA42A | 72 | . | 1 | A37L1 | 17B | Unknown |
| SA42A | 79 | . | 2 | A27L1 | 17B | Unknown |
| SA42A | 83 | . | 1 | A35L1 | 17B | Unknown |
| SA42A | 90 | . | 1 | PPM6 | 17B | Postmold |
| SA42A | 94 | . | 1 | A43L1 | 17B | Unknown |
| SA42A | 97 | . | 1 | A42L1 | 17B | Unknown |
| SA42A | 145 | . | 1 | PPM3 | 17B | Postmold |
| SA42A | 314 | . | 4 | PPM1 | 17B | Postmold |
| SA42A | 339 | . | 4 | PPM4 | 17B | Postmold |
| SA42A | 340 | . | 5 | A8L1 | 17B | Unknown |
| SA42A | 341 | . | 5 | A7L1 | 17B | Posthole |
| SA42A | 354 | . | 5 | A6L2 | 17B | Posthole |
| SA42A | 359 | . | 4 | PPM2 | 17B | Postmold |
| SA42A | 407 | . | 5 | A6L4 | 17B | Posthole |
| SA42A | 412 | . | 5 | A6L6 | 17B | Posthole |
| SA42A | 417 | . | 5 | A6L7 | 17B | Posthole |
| SA42A | 421 | . | 5 | A6L8 | 17B | Posthole |
| SA42A | 425 | . | 5 | A6L5 | 17B | Posthole |
| SA42A | 428 | . | 5 | PPH2 | 17B | Posthole |
| SA42A | 432 | . | 5 | A6L9 | 17B | Posthole |
| SA42A | 495 | . | 8 | A7L1 | 17B | Unknown |
| SA42A | 629 | . | 8 | A8L4 | 17B | Unknown |
| SA42A | 649 | . | 11 | Z2L2 | 17B | Zone |
| SA42A | 1052 | . | 27 | A5L1 | 17B | Well Pit |
| SA42A | 1053 | . | 27 | A3L1 | 17B | Well Pit |
| SA42A | 1067 | . | 27 | A6L1 | 17B | Well Pit |
| SA30-3 | 285 | 103 | 103 | A19L2 | 17B | Well Pit |
| SA30-3 | 103 | 103 | 103 | A12L1 | 17B | Well |
| SA30-3 | 104 | 103 | 103 | Z3L5 | 17B | Well Pit |
| SA30-3 | 155 | 103 | 118 | A36L1 | 17B | Well |
| SA30-3 | 157 | 103 | 118 | A35L1 | 17B | Well |
| SA30-3 | 171 | 103 | 118 | A36L2 | 17B | Well |
| SA30-3 | 188 | 103 | 103 | Z3L6 | 17B | Well Pit |
| SA30-3 | 196 | 103 | 118 | A36L3 | 17B | Well |
| SA30-3 | 205 | 103 | 118 | A36L3 | 17B | Well |
| SA30-3 | 210 | 103 | 103 | Z3L7 | 17B | Well Pit |
| SA30-3 | 214 | 103 | 118 | A28L2 | 17B | Well Pit |
| SA30-3 | 230 | 103 | 118 | A37L4 | 17B | Pit |
| SA30-3 | 237 | 103 | 103 | Z3L8 | 17B | Well Pit |
| SA30-3 | 248 | 103 | 103 | A12L1 | 17B | Well |
| SA30-3 | 251 | 103 | 118 | A37L5 | 17B | Pit |
| SA30-3 | 257 | 103 | 103 | A17L1 | 17B | Well |
| SA30-3 | 260 | 103 | 118 | A37L1 | 17B | Pit |
| SA30-3 | 261 | 103 | 103 | A18L1 | 17B | Well |
| SA30-3 | 262 | 103 | 103 | Z3L9 | 17B | Well Pit |
| SA30-3 | 263 | 103 | 103 | A21L1 | 17B | Well Pit |
| SA30-3 | 264 | 103 | 103 | A19L1 | 17B | Well Pit |
| SA30-3 | 273 | 103 | 118 | A43L1 | 17B | Unknown |
| SA30-3 | 277 | 103 | 103 | F17L1 | 17B | Well Pit |
| SA30-3 | 278 | 103 | 103 | F18L1 | 17B | Well Pit |
| SA30-3 | 281 | 103 | 103 | A23L1 | 17B | Well Pit |
| SA30-3 | 284 | 103 | 103 | A22L1 | 17B | Well Pit |
| SA30-3 | 285 | 103 | 103 | A19L2 | 17B | Well Pit |

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|--------|-----|------|-------|---------|-----|----------|
| SA30-3 | 287 | 103 | 103 | A20L2 | 17B | Unknown |
| SA30-3 | 290 | 103 | 103 | A22L2 | 17B | Well Pit |
| SA30-3 | 291 | 103 | 103 | A27L1 | 17B | Well |
| SA30-3 | 293 | 103 | 103 | A24L2 | 17B | Well Pit |
| SA30-3 | 295 | 103 | 103 | A19L3 | 17B | Well Pit |
| SA30-3 | 296 | 103 | 103 | A20L3 | 17B | Well Pit |
| SA30-3 | 297 | 103 | 103 | A22L3 | 17B | Well Pit |
| SA30-3 | 299 | 103 | 103 | A19L4 | 17B | Well Pit |
| SA30-3 | 303 | 103 | 103 | A28L1 | 17B | Well Pit |
| SA30-3 | 306 | 103 | 103 | A20L4 | 17B | Well Pit |
| SA30-3 | 310 | 103 | 103 | A33L1 | 17B | Well |
| SA30-3 | 313 | 103 | 103 | A34L1 | 17B | Well |
| SA30-3 | 314 | 103 | 103 | A35L1 | 17B | Well |
| SA30-3 | 316 | 103 | 103 | A34L2 | 17B | Well |
| SA30-3 | 317 | 103 | 103 | A34L3 | 17B | Well |
| SA30-3 | 318 | 103 | 103 | A35L2 | 17B | Well |
| SA30-3 | 319 | 103 | 103 | A34L4 | 17B | Well |
| SA30-3 | 320 | 103 | 103 | A35L3 | 17B | Well |
| SA30-3 | 321 | 103 | 103 | A35L4 | 17B | Well |
| SA30-3 | 322 | 103 | 103 | A34L5 | 17B | Well |
| SA30-3 | 323 | 103 | 103 | A34L6 | 17B | Well |
| SA30-3 | 324 | 103 | 103 | A34L7 | 17B | Well |
| SA30-3 | 325 | 103 | 103 | A34L8 | 17B | Well |
| SA30-3 | 326 | 103 | 103 | A34L9 | 17B | Well |
| SA30-3 | 327 | 103 | 103 | A34L10 | 17B | Well |
| SA30-3 | 329 | 103 | 103 | A26L1 | 17B | Well Pit |
| SA30-3 | 337 | 109 | 121 | A4L1 | 17B | Unknown |
| SA30-3 | 339 | 109 | 121 | A4L2 | 17B | Unknown |
| SA30-3 | 374 | 103 | 121 | A16L1 | 17B | Unknown |
| SA30-3 | 380 | 103 | 121 | A16L2 | 17B | Unknown |
| SA30-3 | 387 | 103 | 121 | A16L3 | 17B | Unknown |
| SA30-3 | 394 | 103 | 121 | A16L4 | 17B | Unknown |
| SA30-3 | 397 | 103 | 121 | A16L5 | 17B | Unknown |
| SA30-3 | 413 | 103 | 121 | A16L6 | 17B | Unknown |
| SA34-1 | 206 | TRA | SEC3 | A3 | 17A | Unknown |
| SA34-1 | 213 | TRA | SEC3 | Z3L1 | 17A | Unknown |
| SA34-1 | 229 | TRA | SEC3 | A10 | 17A | Unknown |
| SA34-1 | 240 | 67 | 115 | Z3L1 | 17A | Unknown |
| SA34-1 | 301 | 68.5 | 113.5 | F19L1 | 17A | Well Pit |
| SA34-1 | 304 | 68.5 | 113.5 | F19L2 | 17A | Well Pit |
| SA34-1 | 312 | 68.5 | 113.5 | F19L3 | 17A | Well Pit |
| SA34-1 | 314 | 68.5 | 113.5 | F19L4 | 17A | Well Pit |
| SA34-1 | 315 | 70 | 115 | F19L1 | 17A | Well Pit |
| SA34-1 | 319 | 68.5 | 113.5 | A5EXT | 17A | Unknown |
| SA34-1 | 321 | 68.5 | 113.5 | F19L5 | 17A | Well Pit |
| SA34-1 | 322 | 70 | 115 | F19L2 | 17A | Well Pit |
| SA34-1 | 323 | 70 | 115 | F19L3 | 17A | Well Pit |
| SA34-1 | 329 | 68.5 | 113.5 | F24L1 | 17A | Well |
| SA34-1 | 342 | 70 | 115 | F19L5 | 17A | Well Pit |
| SA34-1 | 343 | 70 | 115 | F19L6 | 17A | Well Pit |
| SA34-1 | 344 | 70 | 115 | F19L7 | 17A | Well Pit |
| SA34-1 | 345 | 68.5 | 113.5 | F24L2 | 17A | Well |
| SA34-1 | 346 | 67 | 115 | F19L6 | 17A | Well Pit |
| SA34-1 | 348 | 68.5 | 113.5 | F24L3 | 17A | Well |
| SA34-1 | 350 | 70 | 115 | F19L7 | 17A | Well Pit |
| SA34-1 | 351 | 68.5 | 113.5 | F24L4 | 17A | Well |
| SA34-1 | 352 | 70 | 115 | F19L8N | 17A | Well Pit |
| SA34-1 | 356 | 70 | 115 | F19L9N | 17A | Well Pit |
| SA34-1 | 358 | 68.5 | 113.5 | F24L6 | 17A | Well |
| SA34-1 | 360 | 68.5 | 113.5 | F24L7 | 17A | Well |
| SA34-1 | 361 | 70 | 115 | F19L10N | 17A | Well Pit |
| SA34-1 | 363 | 70 | 115 | F19L11N | 17A | Well Pit |

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|--------|------|------|-------|-------|-----|----------|
| SA34-1 | 365 | 69.5 | 113.5 | F24L8 | 17A | Well |
| SA34-1 | 391 | 60.5 | 106 | PM24 | 17A | Postmold |
| SA34-1 | 99 | . | TP8 | PPM1 | 17B | Postmold |
| SA34-1 | 100 | . | TP7 | PIT2 | 17B | Pit |
| SA34-1 | 105 | . | TP8 | A1 | 17B | Unknown |
| SA34-1 | 106 | . | TP8 | A3 | 17B | Unknown |
| SA34-1 | 109 | . | TP7 | F2 | 17B | Unknown |
| SA34-1 | 112 | . | TP8 | A2 | 17B | Unknown |
| SA34-1 | 115 | . | TP8 | A8 | 17B | Unknown |
| SA34-1 | 116 | . | TP8 | A9 | 17B | Unknown |
| SA34-1 | 236 | 67 | 115 | F17 | 17B | Unknown |
| SA34-1 | 306 | 70 | 115 | A6 | 17B | Unknown |
| SA34-1 | 403 | 60.5 | 106 | A18 | 17B | Unknown |
| SA34-1 | 509 | 60.5 | 117 | A7 | 17B | Unknown |
| SA34-1 | 371 | 60.5 | 106 | A8 | 17B | Unknown |
| SA34-2 | 166 | TRD | SEC1 | A15L4 | 17A | Unknown |
| SA34-2 | 168 | TRD | SEC1 | A23 | 17A | Trashpit |
| SA34-2 | 174 | TRD | SEC1 | A27 | 17A | Trashpit |
| SA34-2 | 185 | TRD | SEC1 | PPM11 | 17A | Postmold |
| SA34-2 | 880 | . | 10 | A24 | 17A | Unknown |
| SA34-2 | 906 | . | 10 | A40 | 17A | Unknown |
| SA34-2 | 908 | . | 11 | A16 | 17A | Unknown |
| SA34-2 | 915 | . | 10 | Z3L6 | 17A | Unknown |
| SA34-2 | 45 | 275 | 335 | PIT | 17B | Pit |
| SA34-2 | 48 | 275 | 335 | PIT | 17B | Pit |
| SA34-2 | 80 | 12 | A16 | A16 | 17B | Unknown |
| SA34-2 | 163 | TRD | SEC1 | A15L3 | 17B | Unknown |
| SA34-2 | 175 | TRD | SEC1 | A32 | 17B | Unknown |
| SA34-2 | 177 | TRD | SEC1 | A18 | 17B | Unknown |
| SA34-2 | 178 | TRD | SEC1 | A19 | 17B | Trashpit |
| SA34-2 | 881 | . | 10 | A31 | 17B | Unknown |
| SA34-2 | 874 | . | 11 | PM19 | 17B | Postmold |
| SA34-2 | 912 | . | 10 | PM25 | 17B | Postmold |
| SA34-2 | 967 | 100 | 306 | Z3L13 | 17B | Unknown |
| SA34-2 | 983 | 100 | 305.2 | F53L2 | 17B | Trashpit |
| SA34-2 | 985 | 100 | 305.2 | F53L4 | 17B | Trashpit |
| SA34-2 | 987 | 100 | 305.2 | F53L3 | 17B | Trashpit |
| SA34-2 | 992 | 100 | 305.2 | F53L5 | 17B | Trashpit |
| SA34-2 | 997 | 100 | 305.2 | F53L6 | 17B | Trashpit |
| SA34-2 | 1003 | 100 | 305.2 | F53L7 | 17B | Trashpit |
| SA34-2 | 1006 | 100 | 305.2 | F53L8 | 17B | Trashpit |
| SA26-1 | 16 | 106 | 106 | F3 | 17A | Trashpit |
| SA26-1 | 87 | 106 | 103 | F8 | 17A | Well Pit |
| SA26-1 | 115 | 103 | 103 | AG | 17A | Trashpit |
| SA26-1 | 127 | 103 | 106 | AI | 17A | Trashpit |
| SA26-1 | 131 | 103 | 106 | Z3L2 | 17A | Well Pit |
| SA26-1 | 137 | 103 | 106 | F8 | 17A | Well Pit |
| SA26-1 | 138 | 103 | 103 | Z3L1 | 17A | Well Pit |
| SA26-1 | 274 | TRA | SEC1 | Z1L3N | 17A | Unknown |
| SA26-1 | 275 | TRA | SEC1 | A7 | 17A | Unknown |
| SA26-1 | 280 | TRA | SEC3 | A3 | 17A | Unknown |
| SA26-1 | 337 | TRB | SEC1 | A18 | 17A | Unknown |
| SA26-1 | 338 | TRB | SEC1 | A17 | 17A | Unknown |
| SA26-1 | 387 | TRA | SEC5 | A11 | 17A | Unknown |
| SA26-1 | 397 | TRA | SEC5 | F60L1 | 17A | Well Pit |
| SA26-1 | 398 | TRA | SEC5 | F61L1 | 17A | Trashpit |
| SA26-1 | 401 | TRA | SEC5 | F60L2 | 17A | Well Pit |
| SA26-1 | 402 | TRA | SEC5 | F61L2 | 17A | Trashpit |
| SA26-1 | 404 | TRA | SEC5 | F61L3 | 17A | Trashpit |
| SA26-1 | 405 | TRA | SEC5 | F60L3 | 17A | Well Pit |
| SA26-1 | 406 | TRA | SEC5 | F61L4 | 17A | Trashpit |
| SA26-1 | 407 | TRA | SEC5 | F60L4 | 17A | Well Pit |

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|--------|-----|-----|-------|--------|-----|----------|
| SA26-1 | 408 | TRA | SEC5 | F61L5 | 17A | Trashpit |
| SA26-1 | 410 | TRA | SEC5 | F60L5 | 17A | Well Pit |
| SA26-1 | 411 | TRA | SEC5 | F60L6 | 17A | Well Pit |
| SA26-1 | 412 | TRA | SEC5 | F66L1 | 17A | Well Pit |
| SA26-1 | 416 | TRA | SEC5 | F66L7 | 17A | Well Pit |
| SA26-1 | 60 | 106 | 103 | F6 | 17B | Trashpit |
| SA26-1 | 75 | 106 | 103 | Z2L2 | 17B | Unknown |
| SA26-1 | 84 | 106 | 103 | Z2L2S | 17B | Unknown |
| SA26-1 | 93 | 106 | 103 | Z2L2W | 17B | Unknown |
| SA26-1 | 108 | 103 | 103 | AB | 17B | Trashpit |
| SA26-1 | 109 | 103 | 103 | AA | 17B | Trashpit |
| SA26-1 | 123 | 103 | 103 | F21L2 | 17B | Well |
| SA26-1 | 125 | 103 | 103 | F21L3 | 17B | Well |
| SA26-1 | 142 | 103 | 103 | F23 | 17B | Well |
| SA26-1 | 157 | 103 | 103 | F21L4 | 17B | Well |
| SA26-1 | 158 | 103 | 103 | F21L5 | 17B | Well |
| SA26-1 | 159 | 103 | 103 | F21L6 | 17B | Well |
| SA26-1 | 161 | 103 | 103 | F21L7 | 17B | Well |
| SA26-1 | 162 | 103 | 103 | F21L8 | 17B | Well |
| SA26-1 | 165 | 103 | 103 | F21L9 | 17B | Well |
| SA26-1 | 166 | 103 | 103 | F21L10 | 17B | Well |
| SA26-1 | 167 | 103 | 103 | F21L11 | 17B | Well |
| SA26-1 | 168 | 103 | 103 | F21L12 | 17B | Well |
| SA26-1 | 169 | 103 | 103 | F21L13 | 17B | Well |
| SA26-1 | 171 | 103 | 103 | F21L15 | 17B | Well |
| SA26-1 | 172 | 103 | 103 | F21L16 | 17B | Well |
| SA26-1 | 270 | TRA | SEC3 | A4 | 17B | Pit |
| SA26-1 | 278 | TRA | SEC3 | A2 | 17B | Trashpit |
| SA26-1 | 311 | TRB | SEC1 | A11 | 17B | Unknown |
| SA26-1 | 312 | TRB | SEC1 | A8 | 17B | Unknown |
| SA26-1 | 313 | TRB | SEC1 | A12 | 17B | Unknown |
| SA26-1 | 314 | TRB | SEC1 | A5 | 17B | Pit |
| SA26-1 | 318 | TRB | SEC1 | A10 | 17B | Unknown |
| SA26-1 | 320 | TRB | SEC1 | A13 | 17B | Unknown |
| SA26-1 | 322 | TRB | SEC1 | A7 | 17B | Unknown |
| SA26-1 | 323 | TRB | SEC1 | A4 | 17B | Unknown |
| SA26-1 | 326 | TRB | SEC1 | PM10W | 17B | Postmold |
| SA26-1 | 330 | TRB | SEC1 | A16 | 17B | Unknown |
| SA26-1 | 334 | TRB | SEC1 | A9 | 17B | Unknown |
| SA26-1 | 381 | TRA | SEC5 | A7 | 17B | Pit |
| SA26-1 | 434 | TRA | SEC7 | A1 | 17B | Trashpit |
| SA26-1 | 438 | TRA | SEC7 | PM2 | 17B | Postmold |
| SA26-1 | 439 | TRA | SEC7 | A4 | 17B | Trashpit |
| SA26-1 | 440 | TRA | SEC7 | PPM3 | 17B | Postmold |
| SA26-1 | 442 | TRA | SEC7 | A7 | 17B | Unknown |
| SA26-1 | 444 | TRA | SEC7 | A12 | 17B | Unknown |
| SA26-1 | 445 | TRA | SEC7 | A2 | 17B | Trashpit |
| SA26-1 | 446 | TRA | SEC7 | A11 | 17B | Trashpit |
| SA26-1 | 447 | TRA | SEC7 | A9 | 17B | Pit |
| SA26-1 | 448 | TRA | SEC7 | A3 | 17B | Trashpit |
| SA36-4 | 116 | 103 | 112 | A8 | 17A | Unknown |
| SA36-4 | 117 | TRA | SEC2 | A4 | 17A | Unknown |
| SA36-4 | 121 | TRA | SEC3 | A3 | 17A | Unknown |
| SA36-4 | 122 | TRA | SEC3 | PM3 | 17A | Postmold |
| SA36-4 | 123 | TRA | SEC2 | A4 | 17A | Unknown |
| SA36-4 | 130 | 94 | 104.5 | PIT3 | 17A | Unknown |
| SA36-4 | 140 | 94 | 104.5 | A4 | 17A | Pit |
| SA36-4 | 141 | TRB | SEC2 | A2 | 17A | Unknown |
| SA36-4 | 142 | TRB | . | PPM1 | 17A | Postmold |
| SA36-4 | 143 | TRB | . | PPM2 | 17A | Postmold |
| SA36-4 | 144 | TRB | . | A3 | 17A | Pit |
| SA36-4 | 145 | TRB | . | PIT1 | 17A | Pit |

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|--------|-----|-------|-----------|---------|-----|----------|
| SA36-4 | 147 | TRB | SEC3 | PITB | 17A | Unknown |
| SA36-4 | 148 | TRB | . | PPM3 | 17A | Postmold |
| SA36-4 | 150 | TRB | . | PPM4 | 17A | Postmold |
| SA36-4 | 263 | 109 | 112 | PM2 | 17A | Postmold |
| SA36-4 | 304 | 109 | 112 | PPM5 | 17A | Postmold |
| SA36-4 | 322 | 110.5 | 105 | F14L1 | 17A | Trashpit |
| SA36-4 | 327 | 110.5 | 105 | F14L1 | 17A | Trashpit |
| SA36-4 | 328 | 110.5 | 105 | F14L2 | 17A | Trashpit |
| SA36-4 | 343 | 110.5 | 105 | A12L1 | 17A | Unknown |
| SA36-4 | 372 | 106 | 85 | PIT2 | 17A | Pit |
| SA36-4 | 12 | TPA | . | PIT5 | 17B | Pit |
| SA36-4 | 20 | TPA | . | PIT7 | 17B | Pit |
| SA36-4 | 22 | TPA | . | L4 | 17B | Unknown |
| SA36-4 | 70 | 100 | 92.5 | A3 | 17B | Unknown |
| SA36-4 | 89 | 103 | 112 | A7 | 17B | Unknown |
| SA36-4 | 115 | TRA | SEC3 | A2 | 17B | Unknown |
| SA36-4 | 173 | TRC | . | A2 | 17B | Unknown |
| SA36-4 | 174 | TRC | . | A3 | 17B | Unknown |
| SA36-4 | 197 | 106 | 115 | PM2 | 17B | Postmold |
| SA36-4 | 198 | TRC | . | FLOORCL | 17B | Unknown |
| SA36-4 | 202 | TRC | . | A4 | 17B | Unknown |
| SA36-4 | 216 | 106 | 115 | A5 | 17B | Trench |
| SA36-4 | 217 | 106 | 115 | PM1 | 17B | Postmold |
| SA36-4 | 220 | 106 | 115 | PIT1 | 17B | Pit |
| SA36-4 | 225 | 106 | 115 | Z2L1 | 17B | Zone |
| SA36-4 | 229 | 106 | 115 | PIT2 | 17B | Pit |
| SA36-4 | 235 | 106 | 115 | A3 | 17B | Pit |
| SA36-4 | 246 | 109 | 112 | A3 | 17B | Pit |
| SA36-4 | 277 | 106 | 100 | A10 | 17B | Pit |
| SA36-4 | 287 | 106 | 100 | A11 | 17B | Pit |
| SA36-4 | 290 | 100 | 100 | PM13 | 17B | Pit |
| SA36-4 | 292 | 106 | 100 | A9 | 17B | Unknown |
| SA36-4 | 305 | 110.5 | 105 | PH3 | 17B | Posthole |
| SA36-4 | 309 | 103 | 91 | PM2 | 17B | Postmold |
| SA36-4 | 313 | 110.5 | 105 | Z3L1 | 17B | Zone |
| SA36-4 | 318 | 106 | 100 | Z3L1 | 17B | Zone |
| SA36-4 | 321 | 110.5 | 105 | PM12 | 17B | Postmold |
| SA36-4 | 329 | 103 | 91 | A4 | 17B | Unknown |
| SA36-4 | 331 | 103 | 91 | A5 | 17B | Pit |
| SA36-4 | 334 | 103 | 91 | PPM10 | 17B | Postmold |
| SA36-4 | 339 | 109 | 112 | A8EXT | 17B | Trashpit |
| SA36-4 | 341 | 106 | 85 | PM3 | 17B | Postmold |
| SA36-4 | 357 | 110.5 | 105 | Z2L3 | 17B | Zone |
| SA36-4 | 364 | 110.5 | 105 | A2 | 17B | Unknown |
| SA36-4 | 367 | 106 | 85 (S1/2) | Z4L1 | 17B | Zone |
| SA35-1 | 38 | . | TUA | PIT3 | 17B | Pit |
| SA35-1 | 39 | . | TUA | PIT4 | 17B | Pit |
| SA35-1 | 42 | . | TUA | A27 | 17B | Unknown |
| SA35-1 | 43 | . | TUA | A30 | 17B | Unknown |
| SA35-1 | 46 | . | TUA | PIT6 | 17B | Pit |
| SA35-1 | 47 | . | TUA | A32 | 17B | Pit |
| SA35-1 | 49 | . | TUA | A28 | 17B | Unknown |
| SA35-1 | 52 | . | TUA | A33 | 17B | Well Pit |
| SA35-1 | 53 | . | TUA | PM27 | 17B | Postmold |
| SA35-1 | 54 | . | TUA | A34 | 17B | Unknown |
| SA35-1 | 56 | . | TUA | PM24 | 17B | Postmold |
| SA35-1 | 57 | . | TUA | PM32 | 17B | Postmold |
| SA35-1 | 58 | . | TUA | F4L1 | 17B | Well Pit |
| SA35-1 | 60 | . | TUA | F4L2 | 17B | Well Pit |
| SA35-1 | 61 | . | TUA | P8 | 17B | Pit |
| SA35-1 | 62 | . | TUA | A35 | 17B | Well Pit |
| SA35-1 | 63 | . | TUA | PIT7 | 17B | Pit |

| | | | | | | |
|--------|----|---|-----|------|-----|----------|
| SA35-1 | 64 | . | TUA | PIT9 | 17B | Pit |
| SA35-1 | 65 | . | TUA | A36 | 17B | Well Pit |
| SA35-1 | 67 | . | TUA | F4L3 | 17B | Well Pit |

APPENDIX 2
INVENTORY OF ITEMS FROM EARLY 17TH CENTURY CONTEXTS,
BY GROUP AND BY SITE

GROUP=MAJOLICA

| ITEM Frequency Col Pct | SITE | | | | Total |
|------------------------------|-------------|--------|-------------|------------|-------|
| | SA261 | SA303 | SA341 | SA342 | |
| ABOPOLY | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| AUCILLA | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| BISQUE | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| CAPBLU | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| CP | 15 20.27 | 0 . | 14 20.00 | 4 28.57 | 35 |
| CPGUN | 0 0.00 | 0 . | 1 1.43 | 0 0.00 | 1 |
| PIGSP | 3 4.05 | 0 . | 1 1.43 | 2 14.29 | 7 |
| GRTEW | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| ICHBW | 7 9.46 | 0 . | 20 28.57 | 2 14.29 | 31 |
| ISABELA | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| LIGBB | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| MAJOLICU | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| MAJPOLY | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| MAJUIDPO | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| MEXCITYC | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| MXC | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| MXCBC | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| MXCGC | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| MXCW | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 1 |
| MXWITE | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| PUARAY | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |

| | | | | | |
|----------|-------------|--------|-------------|------------|-----|
| PUEBW | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| PUEPOLY | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| PUEUID | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| SEVBB | 23 31.08 | 0 . | 7 10.00 | 1 7.14 | 33 |
| SEVBW | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| SEVWITE | 4 5.41 | 0 . | 1 1.43 | 0 0.00 | 5 |
| SL | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| SLBW | 1 1.35 | 0 . | 1 1.43 | 1 7.14 | 8 |
| SLPOLY | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| SLUISPOL | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| STELNA | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 1 |
| STODOM | 3 4.05 | 0 . | 7 10.00 | 0 0.00 | 10 |
| UIDBB | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| UIDBLU | 0 0.00 | 0 . | 1 1.43 | 0 0.00 | 1 |
| UIDBW | 8 10.81 | 0 . | 2 2.86 | 1 7.14 | 14 |
| UIDGRBLK | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| UIDGRN | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| UIDGRY | 1 1.35 | 0 . | 0 0.00 | 0 0.00 | 1 |
| UIDGW | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| UIDITAL | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| UIDMAJ | 1 1.35 | 0 . | 0 0.00 | 0 0.00 | 1 |
| UIDMEX | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| UIDMOR | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| UIDPOLY | 1 1.35 | 0 . | 0 0.00 | 1 7.14 | 5 |
| UIDPUE | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| UIDTE | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| UIDWITE | 6 8.11 | 0 . | 15 21.43 | 2 14.29 | 26 |
| YAYAL | 1 1.35 | 0 . | 0 0.00 | 0 0.00 | 1 |
| Total | 74 | 0 | 70 | 14 | 181 |

GROUP=MAJOLICA

| Frequency Col Pct | SA351 | SA364 | SA42A | Total |
|----------------------|--------|------------|------------|-------|
| ABOPOLY | 0 . | 0 0.00 | 0 0.00 | 0 |
| AUCILLA | 0 . | 0 0.00 | 0 0.00 | 0 |
| BISQUE | 0 . | 0 0.00 | 0 0.00 | 0 |
| CAPBLU | 0 . | 0 0.00 | 0 0.00 | 0 |
| CP | 0 . | 0 0.00 | 2 15.38 | 35 |
| CPGUN | 0 . | 0 0.00 | 0 0.00 | 1 |
| FIGSP | 0 . | 0 0.00 | 1 7.69 | 7 |
| GRTEW | 0 . | 0 0.00 | 0 0.00 | 0 |
| ICHBW | 0 . | 2 20.00 | 0 0.00 | 31 |
| ISABBLA | 0 . | 0 0.00 | 0 0.00 | 0 |
| LIGBB | 0 . | 0 0.00 | 0 0.00 | 0 |
| MAJOLICU | 0 . | 0 0.00 | 0 0.00 | 0 |
| MAJPOLY | 0 . | 0 0.00 | 0 0.00 | 0 |
| MAJUIDPO | 0 . | 0 0.00 | 0 0.00 | 0 |
| MXCITYC | 0 . | 0 0.00 | 0 0.00 | 0 |
| MXC | 0 . | 0 0.00 | 0 0.00 | 0 |
| MXCBC | 0 . | 0 0.00 | 0 0.00 | 0 |
| MXCGC | 0 . | 0 0.00 | 0 0.00 | 0 |
| MXCW | 0 . | 0 0.00 | 1 7.69 | 1 |
| MXWITE | 0 . | 0 0.00 | 0 0.00 | 0 |
| PUARAY | 0 . | 0 0.00 | 0 0.00 | 0 |
| PUEBW | 0 . | 0 0.00 | 0 0.00 | 0 |
| PUEPOLY | 0 . | 0 0.00 | 0 0.00 | 0 |
| PUEUID | 0 . | 0 0.00 | 0 0.00 | 0 |
| SEVBB | 0 . | 0 0.00 | 2 15.38 | 33 |
| SEVBW | 0 . | 0 0.00 | 0 0.00 | 0 |
| SEVWITE | 0 . | 0 0.00 | 0 0.00 | 5 |

| | | | | |
|----------|---|-------|-------|-----|
| SL | 0 | 0 | 0 | 0 |
| . | . | 0.00 | 0.00 | . |
| SLBW | 0 | 3 | 2 | 8 |
| . | . | 30.00 | 15.38 | . |
| SLPOLY | 0 | 0 | 0 | 0 |
| . | . | 0.00 | 0.00 | . |
| SLUISPOL | 0 | 0 | 0 | 0 |
| . | . | 0.00 | 0.00 | . |
| STELBNA | 0 | 0 | 1 | 1 |
| . | . | 0.00 | 7.69 | . |
| STODOM | 0 | 0 | 0 | 10 |
| . | . | 0.00 | 0.00 | . |
| UIDBB | 0 | 0 | 0 | 0 |
| . | . | 0.00 | 0.00 | . |
| UIDBLU | 0 | 0 | 0 | 1 |
| . | . | 0.00 | 0.00 | . |
| UIDBW | 0 | 2 | 1 | 14 |
| . | . | 20.00 | 7.69 | . |
| UIDGRBLK | 0 | 0 | 0 | 0 |
| . | . | 0.00 | 0.00 | . |
| UIDGRN | 0 | 0 | 0 | 0 |
| . | . | 0.00 | 0.00 | . |
| UIDGRY | 0 | 0 | 0 | 1 |
| . | . | 0.00 | 0.00 | . |
| UIDGW | 0 | 0 | 0 | 0 |
| . | . | 0.00 | 0.00 | . |
| UIDITAL | 0 | 0 | 0 | 0 |
| . | . | 0.00 | 0.00 | . |
| UIDMAJ | 0 | 0 | 0 | 1 |
| . | . | 0.00 | 0.00 | . |
| UIDMEX | 0 | 0 | 0 | 0 |
| . | . | 0.00 | 0.00 | . |
| UIDMOR | 0 | 0 | 0 | 0 |
| . | . | 0.00 | 0.00 | . |
| UIDPOLY | 0 | 2 | 1 | 5 |
| . | . | 20.00 | 7.69 | . |
| UIDPUB | 0 | 0 | 0 | 0 |
| . | . | 0.00 | 0.00 | . |
| UIDTE | 0 | 0 | 0 | 0 |
| . | . | 0.00 | 0.00 | . |
| UIDWITE | 0 | 1 | 2 | 26 |
| . | . | 10.00 | 15.38 | . |
| YAYAL | 0 | 0 | 0 | 1 |
| . | . | 0.00 | 0.00 | . |
| Total | 0 | 10 | 13 | 181 |

GROUP=UTILITARIAN

| Frequency | SA261 | SA303 | SA341 | SA342 | Total |
|-----------|-------|-------|-------|-------|-------|
| ELMORRO | 3 | 0 | 1 | 0 | 4 |
| Col Pct | 0.39 | . | 0.38 | 0.00 | . |
| FBLDIN | 0 | 0 | 2 | 0 | 2 |
| | 0.00 | . | 0.75 | 0.00 | . |
| LDGLCB | 5 | 0 | 5 | 2 | 14 |
| | 0.65 | . | 1.88 | 3.12 | . |
| LEADTING | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | . | 0.00 | 0.00 | . |

| | | | | | |
|----------------------|--------------|--------|--------------|-------------|------|
| MELADO | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 1 |
| MET | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| MEXRED | 0 0.00 | 0 . | 0 0.00 | 1 1.56 | 1 |
| OJ | 468 61.02 | 0 . | 152 57.14 | 49 76.56 | 709 |
| OJGL | 63 8.21 | 0 . | 97 36.47 | 10 15.63 | 178 |
| ORMIC | 0 0.00 | 0 . | 5 1.88 | 0 0.00 | 5 |
| REDWARE | 1 0.13 | 0 . | 1 0.38 | 1 1.56 | 3 |
| SSJ | 138 17.99 | 0 . | 1 0.38 | 0 0.00 | 139 |
| UIDCEW | 84 10.95 | 0 . | 1 0.38 | 1 1.56 | 93 |
| UIDGLCE | 4 0.52 | 0 . | 1 0.38 | 0 0.00 | 5 |
| YUCA | 1 0.13 | 0 . | 0 0.00 | 0 0.00 | 1 |
| Total (Continued) | 767 | 0 | 266 | 64 | 1155 |

GROUP=UTILITARIAN

| Frequency Col Pct | SA351 | SA364 | SA42A | Total |
|----------------------|--------|-------------|-------------|-------|
| ELMORRO | 0 . | 0 0.00 | 0 0.00 | 4 |
| FELDIN | 0 . | 0 0.00 | 0 0.00 | 2 |
| LDGLCE | 0 . | 0 0.00 | 2 13.33 | 14 |
| LEADTING | 0 . | 0 0.00 | 0 0.00 | 0 |
| MELADO | 0 . | 0 0.00 | 1 6.67 | 1 |
| MET | 0 . | 0 0.00 | 0 0.00 | 0 |
| MEXRED | 0 . | 0 0.00 | 0 0.00 | 1 |
| OJ | 0 . | 30 69.77 | 10 66.67 | 709 |
| OJGL | 0 . | 6 13.95 | 2 13.33 | 178 |
| ORMIC | 0 . | 0 0.00 | 0 0.00 | 5 |
| REDWARE | 0 . | 0 0.00 | 0 0.00 | 3 |
| SSJ | 0 . | 0 0.00 | 0 0.00 | 139 |
| UIDCEW | 0 . | 7 16.28 | 0 0.00 | 93 |
| UIDGLCE | 0 . | 0 0.00 | 0 0.00 | 5 |
| YUCA | 0 . | 0 0.00 | 0 0.00 | 1 |
| Total | 0 | 43 | 15 | 1155 |

GROUP=TABLEWARE

| Frequency Col Pct | SA261 | SA303 | SA341 | SA342 | Total |
|----------------------|-------------|--------|------------|-------------|-------|
| BISQUE | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| BIZ | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| DELPT | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| DELFTBW | 2 7.41 | 0 . | 0 0.00 | 0 0.00 | 2 |
| DELPTPOL | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| FAIBW | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| FAIP | 2 7.41 | 0 . | 0 0.00 | 0 0.00 | 2 |
| FAIPOLY | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| FELDIN | 1 3.70 | 0 . | 0 0.00 | 0 0.00 | 1 |
| GUADA | 0 0.00 | 0 . | 1 7.69 | 0 0.00 | 2 |
| MEXRED | 7 25.93 | 0 . | 6 46.15 | 3 100.00 | 17 |
| NOTT | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| ORMIC | 10 37.04 | 0 . | 0 0.00 | 0 0.00 | 10 |
| POR | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| PORBW | 2 7.41 | 0 . | 1 7.69 | 0 0.00 | 3 |
| POREUR | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| POREXP | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| PORJAP | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| PORKRAAK | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| FORMING | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| POROR | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| PORORBW | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| PORORWIT | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| PORUID | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| SLIP | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| SLIPMET | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| SLIPSTF | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |

| | | | | | |
|---------|------------|--------|------------|-----------|----|
| UIDGLCE | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| UIDTE | 3 11.11 | 0 . | 4 30.77 | 0 0.00 | 10 |
| YUNKU | 0 0.00 | 0 . | 1 7.69 | 0 0.00 | 1 |
| Total | 27 | 0 | 13 | 3 | 48 |

GROUP=TABLEWARE

| Frequency Col Pct | SA351 | SA364 | SA42A | Total |
|----------------------|--------|------------|--------|-------|
| BISQUE | 0 . | 0 0.00 | 0 . | 0 |
| BIZ | 0 . | 0 0.00 | 0 . | 0 |
| DELPT | 0 . | 0 0.00 | 0 . | 0 |
| DELFTBW | 0 . | 0 0.00 | 0 . | 2 |
| DELFTPOL | 0 . | 0 0.00 | 0 . | 0 |
| FAIBW | 0 . | 0 0.00 | 0 . | 0 |
| FAIP | 0 . | 0 0.00 | 0 . | 2 |
| FAIPOLY | 0 . | 0 0.00 | 0 . | 0 |
| PELDIN | 0 . | 0 0.00 | 0 . | 1 |
| GUADA | 0 . | 1 20.00 | 0 . | 2 |
| MEXRED | 0 . | 1 20.00 | 0 . | 17 |
| NOTT | 0 . | 0 0.00 | 0 . | 0 |
| ORMIC | 0 . | 0 0.00 | 0 . | 10 |
| POR | 0 . | 0 0.00 | 0 . | 0 |
| PORBW | 0 . | 0 0.00 | 0 . | 3 |
| POREUR | 0 . | 0 0.00 | 0 . | 0 |
| POREXP | 0 . | 0 0.00 | 0 . | 0 |
| PORJAP | 0 . | 0 0.00 | 0 . | 0 |
| PORKRAAK | 0 . | 0 0.00 | 0 . | 0 |
| PORMING | 0 . | 0 0.00 | 0 . | 0 |
| POROR | 0 . | 0 0.00 | 0 . | 0 |
| PORORBW | 0 . | 0 0.00 | 0 . | 0 |
| PORORWIT | 0 . | 0 0.00 | 0 . | 0 |
| PORUID | 0 . | 0 0.00 | 0 . | 0 |

| | | | | |
|---------|---|-------|---|----|
| SLIP | 0 | 0 | 0 | 0 |
| | . | 0.00 | . | |
| SLIPMET | 0 | 0 | 0 | 0 |
| | . | 0.00 | . | |
| SLIPSTP | 0 | 0 | 0 | 0 |
| | . | 0.00 | . | |
| UIDGLCE | 0 | 0 | 0 | 0 |
| | . | 0.00 | . | |
| UIDTE | 0 | 3 | 0 | 10 |
| | . | 60.00 | . | |
| YUNKU | 0 | 0 | 0 | 1 |
| | . | 0.00 | . | |
| Total | 0 | 5 | 0 | 48 |

GROUP=NATIVE AMERICAN

| Frequency | SA261 | SA303 | SA341 | SA342 | Total |
|-----------|-------|-------|-------|-------|-------|
| Col Pct | | | | | |
| ABO | 0 | 0 | 3 | 0 | 4 |
| | 0.00 | . | 0.50 | 0.00 | |
| ABOBR | 0 | 0 | 1 | 0 | 1 |
| | 0.00 | . | 0.17 | 0.00 | |
| ABOFT | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | . | 0.00 | 0.00 | |
| ABOFTP | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | . | 0.00 | 0.00 | |
| ABOFTS | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | . | 0.00 | 0.00 | |
| ABOGRIT | 6 | 0 | 24 | 1 | 31 |
| | 0.90 | . | 4.02 | 0.85 | |
| ABOGRITG | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | . | 0.00 | 0.00 | |
| ABOGRITI | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | . | 0.00 | 0.00 | |
| ABOGRITP | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | . | 0.00 | 0.00 | |
| ABOGRITS | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | . | 0.00 | 0.00 | |
| ABOGRIG | 1 | 0 | 1 | 0 | 2 |
| | 0.15 | . | 0.17 | 0.00 | |
| ABOGRIGI | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | . | 0.00 | 0.00 | |
| ABOGRIGP | 0 | 0 | 0 | 0 | 7 |
| | 0.00 | . | 0.00 | 0.00 | |
| ABOGRIGS | 0 | 0 | 0 | 0 | 2 |
| | 0.00 | . | 0.00 | 0.00 | |
| ABOGRIP | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | . | 0.00 | 0.00 | |
| ABOGRSTP | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | . | 0.00 | 0.00 | |
| ABOGRSTS | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | . | 0.00 | 0.00 | |
| ABOGRITIN | 0 | 0 | 0 | 1 | 1 |
| | 0.00 | . | 0.00 | 0.85 | |
| ABOGRITLM | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | . | 0.00 | 0.00 | |
| ABOGRITMI | 0 | 0 | 0 | 0 | 1 |
| | 0.00 | . | 0.00 | 0.00 | |

| | | | | | |
|----------|------------|--------|------------|-----------|----|
| ABOGRTRB | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| ABOGRTS | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| ABOGRTSH | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| ABOGRTST | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 3 |
| ABOINC | 7 1.04 | 0 . | 11 1.84 | 1 0.85 | 19 |
| ABOLMSTN | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| ABOMICA | 2 0.30 | 0 . | 0 0.00 | 0 0.00 | 2 |
| ABOP | 7 1.04 | 0 . | 1 0.17 | 0 0.00 | 8 |
| ABOPINC | 0 0.00 | 0 . | 1 0.17 | 0 0.00 | 1 |
| ABOPUNC | 0 0.00 | 0 . | 1 0.17 | 0 0.00 | 1 |
| ABOQRTZP | 0 0.00 | 0 . | 1 0.17 | 0 0.00 | 1 |
| ABOQRTZS | 0 0.00 | 0 . | 2 0.34 | 0 0.00 | 2 |
| ABORED | 1 0.15 | 0 . | 0 0.00 | 0 0.00 | 1 |
| ABOS | 0 0.00 | 0 . | 19 3.18 | 0 0.00 | 19 |
| ABOSH | 1 0.15 | 0 . | 0 0.00 | 0 0.00 | 1 |
| ABOSHS | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| ABOSHSTP | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| ABOSHSTS | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| ABOST | 11 1.64 | 0 . | 3 0.50 | 0 0.00 | 15 |
| ABOSTBRS | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| ABOSTINC | 0 0.00 | 0 . | 0 0.00 | 1 0.85 | 1 |
| ABOSTP | 0 0.00 | 0 . | 0 0.00 | 4 3.42 | 14 |
| ABOSTPUN | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| ABOSTRED | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| ABOSTS | 0 0.00 | 0 . | 0 0.00 | 1 0.85 | 2 |
| ABOSTSHP | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| ABOSTSHR | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| ABOUIDDE | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| ALTA | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |

| | | | | | |
|----------|--------------|--------|--------------|-------------|-----|
| COLONO | 1 0.15 | 0 . | 0 0.00 | 0 0.00 | 1 |
| DEPTS | 0 0.00 | 0 . | 1 0.17 | 0 0.00 | 1 |
| IRENE | 0 0.00 | 0 . | 5 0.84 | 0 0.00 | 5 |
| IRENINC | 0 0.00 | 0 . | 0 0.00 | 1 0.85 | 1 |
| IRENPUNC | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| JEFF | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| JEFFA | 0 0.00 | 0 . | 0 0.00 | 1 0.85 | 1 |
| JEFFD | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| JEFFINC | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| JEFFS | 6 0.90 | 0 . | 0 0.00 | 0 0.00 | 6 |
| LAMARLIK | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| LAMLK | 7 1.04 | 0 . | 0 0.00 | 0 0.00 | 7 |
| LAMLKINC | 0 0.00 | 0 . | 1 0.17 | 0 0.00 | 1 |
| LMLK | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| MILLER | 3 0.45 | 0 . | 0 0.00 | 0 0.00 | 3 |
| MISSRED | 1 0.15 | 0 . | 0 0.00 | 0 0.00 | 2 |
| OCML | 1 0.15 | 0 . | 0 0.00 | 0 0.00 | 1 |
| ORANGE | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| ORNGFT | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 2 |
| SJ | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| SJINC | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| SJP | 193 28.81 | 0 . | 114 19.10 | 11 9.40 | 371 |
| SJPUNC | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| SJS | 209 31.19 | 0 . | 227 38.02 | 21 17.95 | 516 |
| SM | 0 0.00 | 0 . | 3 0.50 | 0 0.00 | 3 |
| SMERS | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| SMCORD | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| SMINC | 1 0.15 | 0 . | 0 0.00 | 0 0.00 | 1 |

| | | | | | |
|----------|--------------|--------|--------------|-------------|------|
| SMP | 106 15.82 | 0 . | 73 12.23 | 29 24.79 | 260 |
| SMPUNC | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| SMRED | 2 0.30 | 0 . | 0 0.00 | 0 0.00 | 4 |
| SMS | 104 15.52 | 0 . | 104 17.42 | 45 38.46 | 305 |
| SMSRED | 0 0.00 | 0 . | 1 0.17 | 0 0.00 | 1 |
| WALTINC | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| WALTPUNC | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| Total | 670 | 0 | 597 | 117 | 1631 |

GROUP=NATIVE AMERICAN

| ITEM Frequency Col Pct | SITE | | | Total |
|------------------------------|--------|-----------|-----------|-------|
| | SA351 | SA364 | SA42A | |
| ABO | 0 . | 1 0.67 | 0 0.00 | 4 |
| ABOBR5 | 0 . | 0 0.00 | 0 0.00 | 1 |
| ABOFT | 0 . | 0 0.00 | 0 0.00 | 0 |
| ABOFTP | 0 . | 0 0.00 | 0 0.00 | 0 |
| ABOFTS | 0 . | 0 0.00 | 0 0.00 | 0 |
| ABOGRIT | 0 . | 0 0.00 | 0 0.00 | 31 |
| ABOGRITG | 0 . | 0 0.00 | 0 0.00 | 0 |
| ABOGRITI | 0 . | 0 0.00 | 0 0.00 | 0 |
| ABOGRITP | 0 . | 0 0.00 | 0 0.00 | 0 |
| ABOGRITS | 0 . | 0 0.00 | 0 0.00 | 0 |
| ABOGROG | 0 . | 0 0.00 | 0 0.00 | 2 |
| ABOGROGI | 0 . | 0 0.00 | 0 0.00 | 0 |
| ABOGROGP | 0 . | 0 0.00 | 7 7.22 | 7 |
| ABOGROGS | 0 . | 0 0.00 | 2 2.06 | 2 |
| ABOGROP | 0 . | 0 0.00 | 0 0.00 | 0 |
| ABOGRSTP | 0 . | 0 0.00 | 0 0.00 | 0 |
| ABOGRSTS | 0 . | 0 0.00 | 0 0.00 | 0 |
| ABOGR TIN | 0 . | 0 0.00 | 0 0.00 | 1 |
| ABOGR TLM | 0 . | 0 0.00 | 0 0.00 | 0 |

| | | | | |
|----------|---|------|-------|----|
| ABOGRMTI | 0 | 0 | 1 | 1 |
| | . | 0.00 | 1.03 | |
| ABOGRTRE | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |
| ABOGRTS | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |
| ABOGRTSH | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |
| ABOGRST | 0 | 0 | 3 | 3 |
| | . | 0.00 | 3.09 | |
| ABOINC | 0 | 0 | 0 | 19 |
| | . | 0.00 | 0.00 | |
| ABOLMSTN | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |
| ABOMICA | 0 | 0 | 0 | 2 |
| | . | 0.00 | 0.00 | |
| ABOP | 0 | 0 | 0 | 8 |
| | . | 0.00 | 0.00 | |
| ABOPINC | 0 | 0 | 0 | 1 |
| | . | 0.00 | 0.00 | |
| ABOPUNC | 0 | 0 | 0 | 1 |
| | . | 0.00 | 0.00 | |
| ABOQRTZP | 0 | 0 | 0 | 1 |
| | . | 0.00 | 0.00 | |
| ABOQRTZS | 0 | 0 | 0 | 2 |
| | . | 0.00 | 0.00 | |
| ABORED | 0 | 0 | 0 | 1 |
| | . | 0.00 | 0.00 | |
| ABOS | 0 | 0 | 0 | 19 |
| | . | 0.00 | 0.00 | |
| ABOSH | 0 | 0 | 0 | 1 |
| | . | 0.00 | 0.00 | |
| ABOSHS | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |
| ABOSHSTP | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |
| ABOSHSTS | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |
| ABOST | 0 | 0 | 1 | 15 |
| | . | 0.00 | 1.03 | |
| ABOSTBRS | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |
| ABOSTINC | 0 | 0 | 0 | 1 |
| | . | 0.00 | 0.00 | |
| ABOSTP | 0 | 0 | 10 | 14 |
| | . | 0.00 | 10.31 | |
| ABOSTPUN | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |
| ABOSTRED | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |
| ABOSTS | 0 | 1 | 0 | 2 |
| | . | 0.67 | 0.00 | |
| ABOSTSHP | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |
| ABOSTSHR | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |

| | | | | |
|----------|---|-------|-------|-----|
| ABOUIDDE | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |
| ALTA | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |
| COLONO | 0 | 0 | 0 | 1 |
| | . | 0.00 | 0.00 | |
| DEPTS | 0 | 0 | 0 | 1 |
| | . | 0.00 | 0.00 | |
| IRENE | 0 | 0 | 0 | 5 |
| | . | 0.00 | 0.00 | |
| IRENINC | 0 | 0 | 0 | 1 |
| | . | 0.00 | 0.00 | |
| IRENPUNC | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |
| JEFF | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |
| JEFFA | 0 | 0 | 0 | 1 |
| | . | 0.00 | 0.00 | |
| JEFFD | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |
| JEFFINC | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |
| JEFFS | 0 | 0 | 0 | 6 |
| | . | 0.00 | 0.00 | |
| LAMARLIK | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |
| LAMLK | 0 | 0 | 0 | 7 |
| | . | 0.00 | 0.00 | |
| LAMLKINC | 0 | 0 | 0 | 1 |
| | . | 0.00 | 0.00 | |
| LMLK | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |
| MILLER | 0 | 0 | 0 | 3 |
| | . | 0.00 | 0.00 | |
| MISSRED | 0 | 0 | 1 | 2 |
| | . | 0.00 | 1.03 | |
| OCML | 0 | 0 | 0 | 1 |
| | . | 0.00 | 0.00 | |
| ORANGE | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |
| ORNGFT | 0 | 0 | 2 | 2 |
| | . | 0.00 | 2.06 | |
| SJ | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |
| SJINC | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |
| SJP | 0 | 34 | 19 | 371 |
| | . | 22.67 | 19.59 | |
| SJPUNC | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |
| SJS | 0 | 30 | 29 | 516 |
| | . | 20.00 | 29.90 | |
| SM | 0 | 0 | 0 | 3 |
| | . | 0.00 | 0.00 | |
| SMERS | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |

| | | | | |
|----------|---|-------|-------|------|
| SMCORD | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |
| SMINC | 0 | 0 | 0 | 1 |
| | . | 0.00 | 0.00 | |
| SMP | 0 | 42 | 10 | 260 |
| | . | 28.00 | 10.31 | |
| SMPUNC | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |
| SMRED | 0 | 1 | 1 | 4 |
| | . | 0.67 | 1.03 | |
| SMS | 0 | 41 | 11 | 305 |
| | . | 27.33 | 11.34 | |
| SMSRED | 0 | 0 | 0 | 1 |
| | . | 0.00 | 0.00 | |
| WALTINC | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |
| WALTPUNC | 0 | 0 | 0 | 0 |
| | . | 0.00 | 0.00 | |
| Total | 0 | 150 | 97 | 1631 |

GROUP=FOOD PREPARATION

| ITEM | SITE | | | | Total |
|-----------|-------|-------|-------|-------|-------|
| Frequency | SA261 | SA303 | SA341 | SA342 | |
| Col Pct | | | | | |
| GLAS | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | . | 0.00 | 0.00 | |
| GLASAMB | 0 | 0 | 1 | 0 | 1 |
| | 0.00 | . | 20.00 | 0.00 | |
| GLASAQUA | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | . | 0.00 | 0.00 | |
| GLASBLU | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | . | 0.00 | 0.00 | |
| GLASBRN | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | . | 0.00 | 0.00 | |
| GLASCL | 7 | 0 | 1 | 1 | 10 |
| | 50.00 | . | 20.00 | 10.00 | |
| GLASDRKG | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | . | 0.00 | 0.00 | |
| GLASFLT | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | . | 0.00 | 0.00 | |
| GLASGRN | 4 | 0 | 2 | 4 | 21 |
| | 28.57 | . | 40.00 | 40.00 | |
| GLASLAT | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | . | 0.00 | 0.00 | |
| GLASLITG | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | . | 0.00 | 0.00 | |
| GLASLITY | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | . | 0.00 | 0.00 | |
| GLASOLIV | 0 | 0 | 1 | 0 | 3 |
| | 0.00 | . | 20.00 | 0.00 | |
| GLASOPRE | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | . | 0.00 | 0.00 | |
| GLASPAT | 3 | 0 | 0 | 0 | 3 |
| | 21.43 | . | 0.00 | 0.00 | |
| GLASUID | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | . | 0.00 | 0.00 | |
| GLASYEL | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | . | 0.00 | 0.00 | |

| | | | | | |
|--------|-----------|--------|-----------|------------|----|
| MANO? | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| METATE | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| NAIL | 0 0.00 | 0 . | 0 0.00 | 5 50.00 | 5 |
| POT | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| Total | 14 | 0 | 5 | 10 | 43 |

GROUP=FOOD PREPARATION

| ITEM | SITE | | | |
|-----------|--------|------------|------------|-------|
| Frequency | SA351 | SA364 | SA42A | Total |
| Col Pct | | | | |
| GLAS | 0 . | 0 0.00 | 0 0.00 | 0 |
| GLASAMB | 0 . | 0 0.00 | 0 0.00 | 1 |
| GLASAQUA | 0 . | 0 0.00 | 0 0.00 | 0 |
| GLASBLU | 0 . | 0 0.00 | 0 0.00 | 0 |
| GLASBRN | 0 . | 0 0.00 | 0 0.00 | 0 |
| GLASCL | 0 . | 1 12.50 | 0 0.00 | 10 |
| GLASDRKG | 0 . | 0 0.00 | 0 0.00 | 0 |
| GLASPLT | 0 . | 0 0.00 | 0 0.00 | 0 |
| GLASGRN | 0 . | 7 87.50 | 4 66.67 | 21 |
| GLASLAT | 0 . | 0 0.00 | 0 0.00 | 0 |
| GLASLITG | 0 . | 0 0.00 | 0 0.00 | 0 |
| GLASLITY | 0 . | 0 0.00 | 0 0.00 | 0 |
| GLASOLIV | 0 . | 0 0.00 | 2 33.33 | 3 |
| GLASOPRE | 0 . | 0 0.00 | 0 0.00 | 0 |
| GLASPAT | 0 . | 0 0.00 | 0 0.00 | 3 |
| GLASUID | 0 . | 0 0.00 | 0 0.00 | 0 |
| GLASYEL | 0 . | 0 0.00 | 0 0.00 | 0 |
| MANO? | 0 . | 0 0.00 | 0 0.00 | 0 |
| METATE | 0 . | 0 0.00 | 0 0.00 | 0 |
| NAIL | 0 . | 0 0.00 | 0 0.00 | 5 |
| POT | 0 . | 0 0.00 | 0 0.00 | 0 |
| Total | 0 | 8 | 6 | 43 |

GROUP=ARCHITECTURE

| ITEM Frequency Col Pct | SITE | | | | Total |
|------------------------------|-------------|--------|-------------|------------|-------|
| | SA261 | SA303 | SA341 | SA342 | |
| COTPIN | 0 0.00 | 0 . | 1 1.82 | 0 0.00 | 1 |
| DOORPLAT | 0 0.00 | 0 . | 1 1.82 | 0 0.00 | 1 |
| GLASPLT | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| HEAD | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| HOOK | 0 0.00 | 0 . | 1 1.82 | 0 0.00 | 1 |
| IRTACK | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| NAIL | 50 62.50 | 0 . | 40 72.73 | 4 40.00 | 102 |
| NAILSQ | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| NAILSQUI | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 18 |
| NAILWR | 12 15.00 | 0 . | 3 5.45 | 0 0.00 | 17 |
| RING | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| SPIKE | 10 12.50 | 0 . | 8 14.55 | 2 20.00 | 22 |
| SPIKESQ | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| SPIKEUID | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| SPIKEWR | 2 2.50 | 0 . | 0 0.00 | 3 30.00 | 6 |
| STAPLE | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| TACK | 6 7.50 | 0 . | 1 1.82 | 0 0.00 | 7 |
| TACKWR | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| WIREBR | 0 0.00 | 0 . | 0 0.00 | 1 10.00 | 1 |
| Total | 80 | 0 | 55 | 10 | 176 |

GROUP=ARCHITECTURE

| ITEM Frequency Col Pct | SITE | | | Total |
|------------------------------|--------|-----------|-----------|-------|
| | SA351 | SA364 | SA42A | |
| COTPIN | 0 . | 0 0.00 | 0 0.00 | 1 |
| DOORPLAT | 0 . | 0 0.00 | 0 0.00 | 1 |
| GLASPLT | 0 . | 0 0.00 | 0 0.00 | 0 |
| HEAD | 0 . | 0 0.00 | 0 0.00 | 0 |
| HOOK | 0 . | 0 0.00 | 0 0.00 | 1 |
| IRTACK | 0 . | 0 0.00 | 0 0.00 | 0 |

| | | | | |
|----------|--------|-------|----|-----|
| NAIL | 0 | 7 | 1 | 102 |
| . | 100.00 | 4.17 | | |
| NAILSQ | 0 | 0 | 0 | 0 |
| . | 0.00 | 0.00 | | |
| NAILSQUI | 0 | 0 | 18 | 18 |
| . | 0.00 | 75.00 | | |
| NAILWR | 0 | 0 | 2 | 17 |
| . | 0.00 | 8.33 | | |
| RING | 0 | 0 | 0 | 0 |
| . | 0.00 | 0.00 | | |
| SPIKE | 0 | 0 | 2 | 22 |
| . | 0.00 | 8.33 | | |
| SPIKESQ | 0 | 0 | 0 | 0 |
| . | 0.00 | 0.00 | | |
| SPIKEUID | 0 | 0 | 0 | 0 |
| . | 0.00 | 0.00 | | |
| SPIKEWR | 0 | 0 | 1 | 6 |
| . | 0.00 | 4.17 | | |
| STAPLE | 0 | 0 | 0 | 0 |
| . | 0.00 | 0.00 | | |
| TACK | 0 | 0 | 0 | 7 |
| . | 0.00 | 0.00 | | |
| TACKWR | 0 | 0 | 0 | 0 |
| . | 0.00 | 0.00 | | |
| WIREBR | 0 | 0 | 0 | 1 |
| . | 0.00 | 0.00 | | |
| Total | 0 | 7 | 24 | 176 |

GROUP=WEAPONRY

| ITEM | SITE | | | | | |
|-----------|--------|-------|-------|-------|-------|-------|
| Frequency | | | | | | |
| Col Pct | SA261 | SA303 | SA341 | SA342 | SA42A | Total |
| PLNTGUN | 0 | 0 | 0 | 0 | 0 | 0 |
| . | 0.00 | . | . | . | . | |
| MUSKBAL | 0 | 0 | 0 | 0 | 0 | 0 |
| . | 0.00 | . | . | . | . | |
| PPOINT | 0 | 0 | 0 | 0 | 0 | 0 |
| . | 0.00 | . | . | . | . | |
| SHOT | 1 | 0 | 0 | 0 | 0 | 1 |
| . | 100.00 | . | . | . | . | |
| Total | 1 | 0 | 0 | 0 | 0 | 1 |

GROUP=CLOTHING

| ITEM | SITE | | | | |
|-----------|-------|-------|-------|-------|-------|
| Frequency | | | | | |
| Col Pct | SA261 | SA303 | SA341 | SA342 | Total |
| AGLET | 0 | 0 | 0 | 1 | 1 |
| . | 0.00 | . | 0.00 | 50.00 | |
| AGLET? | 0 | 0 | 1 | 0 | 1 |
| . | 0.00 | . | 16.67 | 0.00 | |
| BORDO | 0 | 0 | 0 | 0 | 0 |
| . | 0.00 | . | 0.00 | 0.00 | |
| BUCKLE | 0 | 0 | 0 | 0 | 0 |
| . | 0.00 | . | 0.00 | 0.00 | |
| BUT | 0 | 0 | 4 | 0 | 4 |
| . | 0.00 | . | 66.67 | 0.00 | |
| BUTBAK | 0 | 0 | 0 | 0 | 0 |
| . | 0.00 | . | 0.00 | 0.00 | |

| | | | | | |
|---------|------------|--------|------------|------------|----|
| BUTBLNK | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| EYE | 0 0.00 | 0 . | 1 16.67 | 0 0.00 | 1 |
| EYSHOOK | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| GROM | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| NEEDLE | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| PIN | 1 50.00 | 0 . | 0 0.00 | 1 50.00 | 5 |
| PINER | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| PINWW | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| SHOE | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| THIMB | 1 50.00 | 0 . | 0 0.00 | 0 0.00 | 1 |
| WIRE | 0 0.00 | 0 . | 0 0.00 | 0 0.00 | 0 |
| Total | 2 | 0 | 6 | 2 | 13 |

GROUP=CLOTHING

| ITEM | SITE | | | Total |
|---------|-----------|--------|-------------|-------|
| | Frequency | Col | Pct | |
| AGLET | 0 . | 0 . | 0 0.00 | 1 |
| AGLET? | 0 . | 0 . | 0 0.00 | 1 |
| BORDO | 0 . | 0 . | 0 0.00 | 0 |
| BUCKLE | 0 . | 0 . | 0 0.00 | 0 |
| BUT | 0 . | 0 . | 0 0.00 | 4 |
| BUTBAK | 0 . | 0 . | 0 0.00 | 0 |
| BUTBLNK | 0 . | 0 . | 0 0.00 | 0 |
| EYE | 0 . | 0 . | 0 0.00 | 1 |
| EYSHOOK | 0 . | 0 . | 0 0.00 | 0 |
| GROM | 0 . | 0 . | 0 0.00 | 0 |
| NEEDLE | 0 . | 0 . | 0 0.00 | 0 |
| PIN | 0 . | 0 . | 3 100.00 | 5 |
| PINBR | 0 . | 0 . | 0 0.00 | 0 |
| PINWW | 0 . | 0 . | 0 0.00 | 0 |
| SHOE | 0 . | 0 . | 0 0.00 | 0 |

| | | | | |
|-------|---|---|------|----|
| THIME | 0 | 0 | 0 | 1 |
| | . | . | 0.00 | |
| WIRE | 0 | 0 | 0 | 0 |
| | . | . | 0.00 | |
| Total | 0 | 0 | 3 | 13 |

GROUP=PERSONAL

| ITEM | SITE | | | | | | Total |
|----------------------|-------------|--------|------------|--------|--------|--------|-------|
| Frequency Col Pct | SA261 | SA303 | SA342 | SA351 | SA364 | SA42A | |
| BEAD | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 . | 0 . | 0 |
| BEADBONE | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 . | 0 . | 0 |
| BEADSEED | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 . | 0 . | 0 |
| BEADSHEL | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 . | 0 . | 0 |
| BEAUDID | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 . | 0 . | 0 |
| BEADWW | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 . | 0 . | 0 |
| BARRING | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 . | 0 . | 0 |
| PANSLAT | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 . | 0 . | 0 |
| MEDALBR | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 . | 0 . | 0 |
| PIPE | 1 100.00 | 0 . | 0 0.00 | 0 . | 0 . | 0 . | 1 |
| PIPEB | 0 0.00 | 0 . | 1 50.00 | 0 . | 0 . | 0 . | 1 |
| PIPES | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 . | 0 . | 0 |
| PIPES12 | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 . | 0 . | 0 |
| PIPES4 | 0 0.00 | 0 . | 1 50.00 | 0 . | 0 . | 0 . | 1 |
| PIPES5 | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 . | 0 . | 0 |
| PIPES7 | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 . | 0 . | 0 |
| Total | 1 | 0 | 2 | 0 | 0 | 0 | 3 |

GROUP=ACTIVITIES

| ITEM | SITE | | | | | | Total |
|----------------------|-------------|--------|-----------|--------|-------------|--------|-------|
| Frequency Col Pct | SA261 | SA303 | SA341 | SA342 | SA364 | SA42A | |
| CHERT | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 |
| CORE | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 |
| DEBIT | 0 0.00 | 0 . | 0 0.00 | 0 . | 1 100.00 | 0 . | 1 |
| FISHHOOK | 2 100.00 | 0 . | 0 0.00 | 0 . | 0 0.00 | 0 . | 2 |
| FLINT | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 |
| HASP | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 |

| | | | | | | | |
|--------|-----------|--------|------------|--------|-----------|--------|---|
| HOOKIR | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 |
| HOOP | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 |
| ROPE | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 |
| SPRUE | 0 0.00 | 0 . | 1 50.00 | 0 . | 0 0.00 | 0 . | 1 |
| STRIKO | 0 0.00 | 0 . | 1 50.00 | 0 . | 0 0.00 | 0 . | 1 |
| Total | 2 | 0 | 2 | 0 | 1 | 0 | 5 |

GROUP=FURNITURE HARDWARE

| ITEM | SITE | | | | Total |
|--------|----------------------|--------|-------------|--------|-------|
| | Frequency Col Pct | SA261 | SA303 | SA341 | SA42A |
| BRTACK | 1 100.00 | 0 . | 1 100.00 | 0 . | 2 |
| HASP | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 |
| TACK | 0 0.00 | 0 . | 0 0.00 | 0 . | 0 |
| Total | 1 | 0 | 1 | 0 | 2 |

GROUP=TOYS

| ITEM | SITE | | Total |
|--------|----------------------|-------------|-------|
| | Frequency Col Pct | SA261 | SA342 |
| DICE | 1 50.00 | 0 0.00 | 1 |
| GAMDIS | 1 50.00 | 1 100.00 | 2 |
| Total | 2 | 1 | 3 |

APPENDIX 3
INVENTORY OF ITEMS FROM LATE 17TH CENTURY CONTEXTS,
BY GROUP AND BY SITE

GROUP=MAJOLICA

| ITEM Frequency Col Pct | SITE | | | | Total |
|------------------------------|-------------|------------|------------|-------------|-------|
| | SA261 | SA303 | SA341 | SA342 | |
| ABOPOLY | 8 4.10 | 4 1.69 | 2 8.70 | 3 3.95 | 22 |
| AUCILLA | 2 1.03 | 2 0.85 | 1 4.35 | 2 2.63 | 17 |
| BISQUE | 5 2.56 | 2 0.85 | 0 0.00 | 0 0.00 | 16 |
| CAPBLU | 0 0.00 | 1 0.42 | 0 0.00 | 0 0.00 | 4 |
| CP | 25 12.82 | 9 3.81 | 0 0.00 | 5 6.58 | 54 |
| CPGUN | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| FIGSP | 8 4.10 | 6 2.54 | 1 4.35 | 10 13.16 | 34 |
| GRTEW | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| ICHBW | 19 9.74 | 8 3.39 | 3 13.04 | 7 9.21 | 50 |
| ISABELLA | 1 0.51 | 3 1.27 | 0 0.00 | 0 0.00 | 4 |
| LIGBB | 0 0.00 | 3 1.27 | 0 0.00 | 0 0.00 | 3 |
| MAJOLICU | 0 0.00 | 6 2.54 | 0 0.00 | 0 0.00 | 6 |
| MAJPOLY | 0 0.00 | 0 0.00 | 0 0.00 | 6 7.89 | 6 |
| MAJUIDPO | 0 0.00 | 10 4.24 | 0 0.00 | 0 0.00 | 10 |
| MEXCITYC | 0 0.00 | 1 0.42 | 0 0.00 | 0 0.00 | 1 |
| MXC | 0 0.00 | 8 3.39 | 0 0.00 | 0 0.00 | 8 |
| MXCBC | 0 0.00 | 1 0.42 | 0 0.00 | 0 0.00 | 2 |
| MXCGC | 0 0.00 | 2 0.85 | 0 0.00 | 0 0.00 | 2 |
| MXCW | 0 0.00 | 10 4.24 | 0 0.00 | 2 2.63 | 22 |
| MXWITE | 0 0.00 | 14 5.93 | 0 0.00 | 0 0.00 | 14 |
| PUARAY | 0 0.00 | 1 0.42 | 0 0.00 | 0 0.00 | 2 |
| PUEBW | 0 | 0 | 0 | 0 | 1 |

| | | | | | |
|----------|-------------|-------------|------------|------------|-----|
| | 0.00 | 0.00 | 0.00 | 0.00 | |
| PUEPOLY | 14 7.18 | 16 6.78 | 3 13.04 | 6 7.89 | 82 |
| PUEUID | 0 0.00 | 6 2.54 | 0 0.00 | 0 0.00 | 6 |
| SEVBB | 17 8.72 | 14 5.93 | 1 4.35 | 4 5.26 | 52 |
| SEVBW | 0 0.00 | 3 1.27 | 0 0.00 | 0 0.00 | 4 |
| SEVWHITE | 2 1.03 | 1 0.42 | 0 0.00 | 0 0.00 | 6 |
| SL | 0 0.00 | 2 0.85 | 0 0.00 | 0 0.00 | 2 |
| SLBW | 10 5.13 | 20 8.47 | 2 8.70 | 9 11.84 | 61 |
| SLPOLY | 7 3.59 | 1 0.42 | 2 8.70 | 2 2.63 | 26 |
| SLUISPOL | 0 0.00 | 1 0.42 | 0 0.00 | 0 0.00 | 1 |
| STELENA | 0 0.00 | 1 0.42 | 0 0.00 | 0 0.00 | 1 |
| STODOM | 2 1.03 | 1 0.42 | 0 0.00 | 0 0.00 | 10 |
| UIDBB | 3 1.54 | 2 0.85 | 0 0.00 | 0 0.00 | 6 |
| UIDELU | 0 0.00 | 3 1.27 | 0 0.00 | 0 0.00 | 3 |
| UIDBW | 11 5.64 | 12 5.08 | 5 21.74 | 9 11.84 | 76 |
| UIDGRBLK | 0 0.00 | 1 0.42 | 0 0.00 | 0 0.00 | 1 |
| UIDGRN | 4 2.05 | 0 0.00 | 0 0.00 | 1 1.32 | 5 |
| UIDGRY | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| UIDGW | 0 0.00 | 1 0.42 | 0 0.00 | 0 0.00 | 3 |
| UIDITAL | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 3 |
| UIDMAJ | 12 6.15 | 19 8.05 | 0 0.00 | 1 1.32 | 35 |
| UIDMEX | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 11 |
| UIDMOR | 0 0.00 | 2 0.85 | 0 0.00 | 0 0.00 | 3 |
| UIDPOLY | 12 6.15 | 3 1.27 | 1 4.35 | 1 1.32 | 56 |
| UIDPUB | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 4 |
| UIDTE | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 6 |
| UIDWHITE | 25 12.82 | 35 14.83 | 1 4.35 | 8 10.53 | 128 |
| YAYAL | 8 4.10 | 1 0.42 | 1 4.35 | 0 0.00 | 11 |
| Total | 195 | 236 | 23 | 76 | 881 |

GROUP=MAJOLICA

| ITEM Frequency Col Pct | SITE | | | Total |
|------------------------------|-----------|-----------|-------------|-------|
| | SA351 | SA364 | SA42A | |
| ABOPOLY | 2 2.78 | 0 0.00 | 3 1.26 | 22 |
| AUCILLA | 4 5.56 | 0 0.00 | 6 2.52 | 17 |
| BISQUE | 1 1.39 | 0 0.00 | 8 3.36 | 16 |
| CAPBLU | 2 2.78 | 0 0.00 | 1 0.42 | 4 |
| CP | 6 8.33 | 0 0.00 | 9 3.78 | 54 |
| CPGUN | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| FIGSP | 7 9.72 | 2 4.88 | 0 0.00 | 34 |
| GRTEW | 0 0.00 | 0 0.00 | 1 0.42 | 1 |
| ICHBW | 6 8.33 | 4 9.76 | 3 1.26 | 50 |
| ISABELA | 0 0.00 | 0 0.00 | 0 0.00 | 4 |
| LIGBB | 0 0.00 | 0 0.00 | 0 0.00 | 3 |
| MAJOLICU | 0 0.00 | 0 0.00 | 0 0.00 | 6 |
| MAJPOLY | 0 0.00 | 0 0.00 | 0 0.00 | 6 |
| MAJUIDPO | 0 0.00 | 0 0.00 | 0 0.00 | 10 |
| MEXCITYC | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| MXC | 0 0.00 | 0 0.00 | 0 0.00 | 8 |
| MXCBC | 0 0.00 | 0 0.00 | 1 0.42 | 2 |
| MXCGC | 0 0.00 | 0 0.00 | 0 0.00 | 2 |
| MXCW | 0 0.00 | 0 0.00 | 10 4.20 | 22 |
| MXWITE | 0 0.00 | 0 0.00 | 0 0.00 | 14 |
| PUARAY | 0 0.00 | 0 0.00 | 1 0.42 | 2 |
| PURBW | 0 0.00 | 0 0.00 | 1 0.42 | 1 |
| PURPOLY | 5 6.94 | 1 2.44 | 37 15.55 | 82 |
| PURUID | 0 0.00 | 0 0.00 | 0 0.00 | 6 |
| SEVBB | 4 5.56 | 2 4.88 | 10 4.20 | 52 |
| SEVBW | 0 0.00 | 0 0.00 | 1 0.42 | 4 |
| SEVWITE | 0 0.00 | 1 2.44 | 2 0.84 | 6 |

| | | | | |
|----------|-------------|-------------|-------------|-----|
| SL | 0 0.00 | 0 0.00 | 0 0.00 | 2 |
| SLBW | 5 6.94 | 2 4.88 | 13 5.46 | 61 |
| SLPOLY | 0 0.00 | 0 0.00 | 14 5.88 | 26 |
| SLUISPOL | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| STELBNA | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| STODOM | 0 0.00 | 0 0.00 | 7 2.94 | 10 |
| UIDBB | 0 0.00 | 0 0.00 | 1 0.42 | 6 |
| UIDBLU | 0 0.00 | 0 0.00 | 0 0.00 | 3 |
| UIDBW | 9 12.50 | 10 24.39 | 20 8.40 | 76 |
| UIDGRBLK | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| UIDGRN | 0 0.00 | 0 0.00 | 0 0.00 | 5 |
| UIDGRY | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| UIDGW | 1 1.39 | 1 2.44 | 0 0.00 | 3 |
| UIDITAL | 0 0.00 | 0 0.00 | 3 1.26 | 3 |
| UIDMAJ | 0 0.00 | 0 0.00 | 3 1.26 | 35 |
| UIDMEX | 0 0.00 | 1 2.44 | 10 4.20 | 11 |
| UIDMOR | 0 0.00 | 0 0.00 | 1 0.42 | 3 |
| UIDPOLY | 3 4.17 | 5 12.20 | 31 13.03 | 56 |
| UIDPUB | 0 0.00 | 0 0.00 | 4 1.68 | 4 |
| UIDTE | 0 0.00 | 0 0.00 | 6 2.52 | 6 |
| UIDWITE | 17 23.61 | 11 26.83 | 31 13.03 | 128 |
| YAYAL | 0 0.00 | 1 2.44 | 0 0.00 | 11 |
| Total | 72 | 41 | 238 | 881 |

GROUP=UTILITARIAN

| ITEM | SITE | | | | Total |
|----------------------|------------|------------|-----------|------------|-------|
| Frequency Col Pct | SA261 | SA303 | SA341 | SA342 | |
| ELMORRO | 9 1.34 | 27 4.95 | 4 8.00 | 10 5.59 | 63 |
| FELDIN | 0 0.00 | 0 0.00 | 1 2.00 | 0 0.00 | 1 |
| LDGLCE | 14 2.09 | 12 2.20 | 1 2.00 | 3 1.68 | 40 |
| LEADTING | 0 0.00 | 3 0.55 | 0 0.00 | 0 0.00 | 3 |

| | | | | | |
|---------|--------------|--------------|-------------|--------------|------|
| MELADO | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| MET | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 3 |
| MEXRED | 0 0.00 | 0 0.00 | 0 0.00 | 2 1.12 | 2 |
| OJ | 586 87.33 | 346 63.49 | 37 74.00 | 127 70.95 | 1432 |
| OJGL | 34 5.07 | 77 14.13 | 3 6.00 | 15 8.38 | 182 |
| OJSA42A | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 11 |
| ORMIC | 0 0.00 | 0 0.00 | 0 0.00 | 3 1.68 | 3 |
| REDWARE | 1 0.15 | 2 0.37 | 0 0.00 | 1 0.56 | 5 |
| SSJ | 6 0.89 | 4 0.73 | 0 0.00 | 0 0.00 | 10 |
| UIDCEW | 21 3.13 | 72 13.21 | 4 8.00 | 17 9.50 | 173 |
| UIDGLCB | 0 0.00 | 2 0.37 | 0 0.00 | 1 0.56 | 8 |
| YUCA | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| Total | 671 | 545 | 50 | 179 | 1936 |

GROUP=UTILITARIAN

| ITEM | SITE | | | |
|----------------------|-------------|-------------|--------------|-------|
| Frequency Col Pct | SA351 | SA364 | SA42A | Total |
| ELMORRO | 1 0.93 | 10 9.26 | 2 0.73 | 63 |
| FELDIN | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| LDGLCB | 4 3.70 | 1 0.93 | 5 1.82 | 40 |
| LEADTING | 0 0.00 | 0 0.00 | 0 0.00 | 3 |
| MELADO | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| MET | 0 0.00 | 0 0.00 | 3 1.09 | 3 |
| MEXRED | 0 0.00 | 0 0.00 | 0 0.00 | 2 |
| OJ | 84 77.78 | 64 59.26 | 199 72.36 | 1443 |
| OJGL | 3 2.78 | 11 10.19 | 39 14.18 | 182 |
| ORMIC | 0 0.00 | 0 0.00 | 0 0.00 | 3 |
| REDWARE | 0 0.00 | 0 0.00 | 1 0.36 | 5 |
| SSJ | 0 0.00 | 0 0.00 | 0 0.00 | 10 |
| UIDCEW | 12 11.11 | 22 20.37 | 25 9.09 | 173 |

| | | | | |
|---------|-----------|-----------|-----------|------|
| UIDGLCE | 4 3.70 | 0 0.00 | 1 0.36 | 8 |
| YUCA | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| Total | 108 | 108 | 275 | 1936 |

GROUP=TABLEWARE

| ITEM | SITE | | | | Total |
|----------|-------------|-------------|------------|-------------|-------|
| | Frequency | Col | Pct | | |
| BISQUE | 0 0.00 | 0 0.00 | 0 0.00 | 3 6.82 | 6 |
| BIZ | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| DELFT | 2 4.55 | 9 14.06 | 0 0.00 | 1 2.27 | 13 |
| DELFTBW | 3 6.82 | 5 7.81 | 0 0.00 | 4 9.09 | 13 |
| DELFTPOL | 1 2.27 | 0 0.00 | 0 0.00 | 0 0.00 | 2 |
| FAIBW | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| FAIP | 1 2.27 | 3 4.69 | 0 0.00 | 1 2.27 | 5 |
| FAIPOLY | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| FELDIN | 4 9.09 | 0 0.00 | 0 0.00 | 0 0.00 | 4 |
| GUADA | 3 6.82 | 1 1.56 | 2 33.33 | 0 0.00 | 11 |
| MEXRED | 19 43.18 | 38 59.38 | 2 33.33 | 25 56.82 | 128 |
| NOTT | 1 2.27 | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| ORMIC | 4 9.09 | 1 1.56 | 0 0.00 | 0 0.00 | 17 |
| POR | 0 0.00 | 3 4.69 | 0 0.00 | 0 0.00 | 3 |
| PORBW | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| POREUR | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| POREXP | 1 2.27 | 0 0.00 | 0 0.00 | 1 2.27 | 2 |
| PORJAP | 0 0.00 | 0 0.00 | 0 0.00 | 1 2.27 | 1 |
| PORKRAAK | 0 0.00 | 1 1.56 | 0 0.00 | 0 0.00 | 1 |
| PORMING | 0 0.00 | 1 1.56 | 0 0.00 | 0 0.00 | 1 |
| POROR | 0 0.00 | 1 1.56 | 0 0.00 | 1 2.27 | 3 |
| PORORBW | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| PORORWIT | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| PORUID | 0 | 0 | 0 | 0 | 3 |

| | | | | | |
|---------|-----------|-----------|------------|------------|-----|
| | 0.00 | 0.00 | 0.00 | 0.00 | |
| SLIP | 1 2.27 | 0 0.00 | 1 16.67 | 0 0.00 | 5 |
| SLIPMET | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| SLIPSTF | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| UIDGLCB | 0 0.00 | 1 1.56 | 0 0.00 | 0 0.00 | 1 |
| UIDTB | 4 9.09 | 0 0.00 | 1 16.67 | 7 15.91 | 13 |
| YUNKU | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| Total | 44 | 64 | 6 | 44 | 242 |

GROUP=TABLEWARE

| ITEM Frequency Col Pct | SITE | | | Total |
|------------------------------|-------------|------------|------------|-------|
| | SA351 | SA364 | SA42A | |
| BISQUB | 3 7.89 | 0 0.00 | 0 0.00 | 6 |
| BIZ | 0 0.00 | 0 0.00 | 1 3.70 | 1 |
| DELFT | 0 0.00 | 1 5.26 | 0 0.00 | 13 |
| DELFTBW | 0 0.00 | 1 5.26 | 0 0.00 | 13 |
| DELFTPOL | 0 0.00 | 1 5.26 | 0 0.00 | 2 |
| FAIBW | 0 0.00 | 1 5.26 | 0 0.00 | 1 |
| FAIP | 0 0.00 | 0 0.00 | 0 0.00 | 5 |
| FAIPOLY | 0 0.00 | 1 5.26 | 0 0.00 | 1 |
| PELDIN | 0 0.00 | 0 0.00 | 0 0.00 | 4 |
| GUADA | 0 0.00 | 0 0.00 | 5 18.52 | 11 |
| MEXRED | 29 76.32 | 6 31.58 | 9 33.33 | 128 |
| NOTT | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| ORMIC | 3 7.89 | 1 5.26 | 8 29.63 | 17 |
| POR | 0 0.00 | 0 0.00 | 0 0.00 | 3 |
| PORBW | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| POREUR | 0 0.00 | 0 0.00 | 1 3.70 | 1 |
| POREXP | 0 0.00 | 0 0.00 | 0 0.00 | 2 |
| PORJAP | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| PORKRAAK | 0 0.00 | 0 0.00 | 0 0.00 | 1 |

| | | | | |
|----------|-----------|------------|-----------|-----|
| FORMING | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| POROR | 0 0.00 | 1 5.26 | 0 0.00 | 3 |
| PORORBW | 1 2.63 | 0 0.00 | 0 0.00 | 1 |
| PORORWIT | 1 2.63 | 0 0.00 | 0 0.00 | 1 |
| PORUID | 0 0.00 | 1 5.26 | 2 7.41 | 3 |
| SLIP | 0 0.00 | 3 15.79 | 0 0.00 | 5 |
| SLIPMET | 0 0.00 | 1 5.26 | 0 0.00 | 1 |
| SLIPSTP | 0 0.00 | 0 0.00 | 1 3.70 | 1 |
| UIDGLCB | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| UIDTE | 0 0.00 | 1 5.26 | 0 0.00 | 13 |
| YUNKU | 1 2.63 | 0 0.00 | 0 0.00 | 1 |
| Total | 38 | 19 | 27 | 242 |

GROUP=NATIVE AMERICAN

| ITEM | SITE | | | | Total |
|----------|------------|-----|------------|-----------|-------|
| | Frequency | Col | Pct | | |
| ABO | 29 1.88 | | 7 0.47 | 0 0.00 | 97 |
| ABOBR | 0 0.00 | | 3 0.20 | 0 0.00 | 10 |
| ABOFT | 0 0.00 | | 6 0.40 | 0 0.00 | 24 |
| ABOFTP | 0 0.00 | | 0 0.00 | 0 0.00 | 3 |
| ABOPTS | 0 0.00 | | 0 0.00 | 0 0.00 | 6 |
| ABOGRIT | 0 0.00 | | 14 0.94 | 3 1.67 | 34 |
| ABOGRITG | 0 0.00 | | 0 0.00 | 0 0.00 | 1 |
| ABOGRITI | 0 0.00 | | 0 0.00 | 0 0.00 | 2 |
| ABOGRITP | 0 0.00 | | 0 0.00 | 1 0.56 | 28 |
| ABOGRITS | 0 0.00 | | 0 0.00 | 6 3.33 | 25 |
| ABOGROG | 3 0.19 | | 2 0.13 | 0 0.00 | 21 |
| ABOGROGI | 0 0.00 | | 0 0.00 | 0 0.00 | 2 |
| ABOGROGP | 0 0.00 | | 0 0.00 | 0 0.00 | 51 |
| ABOGROGS | 0 0.00 | | 0 0.00 | 1 0.56 | 6 |
| ABOGROP | 0 0.00 | | 0 0.00 | 0 0.00 | 1 |
| ABOGRSTP | 0 | | 0 | 0 | 1 |

| | | | | | |
|-----------|------------|------------|-----------|------------|-----|
| | 0.00 | 0.00 | 0.00 | 0.00 | |
| ABOGRSTS | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 3 |
| ABOGR TIN | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| ABOGR TLM | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| ABOGR TMI | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| ABOGR TRE | 0 0.00 | 1 0.07 | 0 0.00 | 0 0.00 | 1 |
| ABOGR TS | 0 0.00 | 0 0.00 | 0 0.00 | 8 1.00 | 8 |
| ABOGR TSH | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 6 |
| ABOGR TST | 0 0.00 | 4 0.27 | 0 0.00 | 0 0.00 | 101 |
| ABO INC | 4 0.26 | 1 0.07 | 0 0.00 | 0 0.00 | 7 |
| ABOL MSTN | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 8 |
| ABOMICA | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| ABOP | 1 0.06 | 2 0.13 | 1 0.56 | 0 0.00 | 12 |
| ABOP INC | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| ABOP UNC | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| ABOQRTZP | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| ABOQRTZS | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| ABORED | 10 0.65 | 0 0.00 | 2 1.11 | 0 0.00 | 32 |
| ABOS | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 3 |
| ABOSH | 1 0.06 | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| ABOSH S | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 4 |
| ABOSH STP | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| ABOSH STS | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 2 |
| ABOST | 30 1.95 | 13 0.87 | 2 1.11 | 17 2.12 | 67 |
| ABOSTBRS | 0 0.00 | 1 0.07 | 0 0.00 | 3 0.37 | 4 |
| ABOST INC | 1 0.06 | 1 0.07 | 0 0.00 | 3 0.37 | 6 |
| ABOSTP | 0 0.00 | 4 0.27 | 0 0.00 | 6 0.75 | 138 |
| ABOSTPUN | 0 0.00 | 0 0.00 | 0 0.00 | 1 0.12 | 3 |
| ABOSTRED | 0 | 0 | 0 | 1 | 1 |

| | | | | | |
|----------|-------|-------|-------|------|-----|
| | 0.00 | 0.00 | 0.00 | 0.12 | |
| ABOSTS | 0 | 0 | 0 | 7 | 15 |
| | 0.00 | 0.00 | 0.00 | 0.87 | |
| ABOSTSHP | 0 | 0 | 0 | 0 | 1 |
| | 0.00 | 0.00 | 0.00 | 0.00 | |
| ABOSTSHR | 0 | 0 | 0 | 1 | 1 |
| | 0.00 | 0.00 | 0.00 | 0.12 | |
| ABOUIDDE | 0 | 1 | 0 | 0 | 1 |
| | 0.00 | 0.07 | 0.00 | 0.00 | |
| ALTA | 0 | 1 | 0 | 0 | 1 |
| | 0.00 | 0.07 | 0.00 | 0.00 | |
| COLONO | 1 | 6 | 0 | 3 | 10 |
| | 0.06 | 0.40 | 0.00 | 0.37 | |
| DEPTS | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | 0.00 | 0.00 | 0.00 | |
| IRENE | 0 | 4 | 0 | 1 | 5 |
| | 0.00 | 0.27 | 0.00 | 0.12 | |
| IRENINC | 0 | 0 | 1 | 0 | 1 |
| | 0.00 | 0.00 | 0.56 | 0.00 | |
| IRENFUNC | 0 | 0 | 0 | 0 | 1 |
| | 0.00 | 0.00 | 0.00 | 0.00 | |
| JEFF | 2 | 2 | 0 | 2 | 6 |
| | 0.13 | 0.13 | 0.00 | 0.25 | |
| JEFFA | 1 | 0 | 0 | 0 | 1 |
| | 0.06 | 0.00 | 0.00 | 0.00 | |
| JEFFD | 4 | 0 | 0 | 0 | 4 |
| | 0.26 | 0.00 | 0.00 | 0.00 | |
| JEFFINC | 1 | 0 | 0 | 0 | 2 |
| | 0.06 | 0.00 | 0.00 | 0.00 | |
| JEFFS | 1 | 1 | 0 | 0 | 2 |
| | 0.06 | 0.07 | 0.00 | 0.00 | |
| LAMARLIK | 0 | 1 | 0 | 0 | 1 |
| | 0.00 | 0.07 | 0.00 | 0.00 | |
| LAMLK | 8 | 0 | 0 | 1 | 14 |
| | 0.52 | 0.00 | 0.00 | 0.12 | |
| LAMLKINC | 0 | 2 | 0 | 1 | 3 |
| | 0.00 | 0.13 | 0.00 | 0.12 | |
| LMLK | 0 | 0 | 0 | 0 | 1 |
| | 0.00 | 0.00 | 0.00 | 0.00 | |
| MILLER | 1 | 0 | 0 | 0 | 1 |
| | 0.06 | 0.00 | 0.00 | 0.00 | |
| MISSRED | 2 | 14 | 0 | 0 | 25 |
| | 0.13 | 0.94 | 0.00 | 0.00 | |
| OCML | 0 | 0 | 0 | 0 | 1 |
| | 0.00 | 0.00 | 0.00 | 0.00 | |
| ORANGE | 0 | 3 | 0 | 0 | 3 |
| | 0.00 | 0.20 | 0.00 | 0.00 | |
| ORNGFT | 0 | 0 | 0 | 0 | 1 |
| | 0.00 | 0.00 | 0.00 | 0.00 | |
| SJ | 0 | 2 | 0 | 0 | 2 |
| | 0.00 | 0.13 | 0.00 | 0.00 | |
| SJINC | 2 | 0 | 0 | 0 | 2 |
| | 0.13 | 0.00 | 0.00 | 0.00 | |
| SJP | 319 | 170 | 23 | 77 | 874 |
| | 20.71 | 11.42 | 12.78 | 9.60 | |
| SJPUNC | 1 | 0 | 0 | 0 | 1 |
| | 0.06 | 0.00 | 0.00 | 0.00 | |

| | | | | | |
|----------|--------------|--------------|-------------|--------------|------|
| SJS | 206 13.38 | 152 10.21 | 21 11.67 | 49 6.11 | 733 |
| SM | 0 0.00 | 7 0.47 | 0 0.00 | 0 0.00 | 18 |
| SMBRS | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 2 |
| SMCORD | 1 0.06 | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| SMINC | 16 1.04 | 0 0.00 | 0 0.00 | 0 0.00 | 16 |
| SMP | 269 17.47 | 269 18.07 | 58 32.22 | 201 25.06 | 1127 |
| SMPUNC | 0 0.00 | 7 0.47 | 0 0.00 | 0 0.00 | 8 |
| SMRED | 13 0.84 | 0 0.00 | 0 0.00 | 1 0.12 | 15 |
| SMS | 611 39.68 | 788 52.92 | 61 33.89 | 397 49.50 | 2501 |
| SMSRED | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| WALTINC | 1 0.06 | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| WALTPUNC | 1 0.06 | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| Total | 1540 | 1489 | 180 | 802 | 6124 |

GROUP=NATIVE AMERICAN

| ITEM | SITE | | | Total |
|----------------------|-----------|-------------|------------|-------|
| Frequency Col Pct | SA351 | SA364 | SA42A | |
| ABO | 1 0.28 | 59 13.88 | 1 0.08 | 97 |
| ABOBRs | 1 0.28 | 0 0.00 | 0 0.00 | 10 |
| ABOFT | 0 0.00 | 18 4.24 | 0 0.00 | 24 |
| ABOFTP | 0 0.00 | 0 0.00 | 3 0.23 | 3 |
| ABOFTS | 0 0.00 | 0 0.00 | 6 0.45 | 6 |
| ABOGRIT | 5 1.38 | 2 0.47 | 2 0.15 | 34 |
| ABOGRITG | 0 0.00 | 0 0.00 | 1 0.08 | 1 |
| ABOGRITI | 1 0.28 | 0 0.00 | 1 0.08 | 2 |
| ABOGRITP | 0 0.00 | 0 0.00 | 25 1.89 | 28 |
| ABOGRITS | 0 0.00 | 0 0.00 | 16 1.21 | 25 |
| ABOGROG | 0 0.00 | 0 0.00 | 13 0.98 | 21 |
| ABOGROGI | 0 0.00 | 0 0.00 | 2 0.15 | 2 |
| ABOGROGP | 0 0.00 | 0 0.00 | 51 3.85 | 51 |
| ABOGROGS | 0 | 0 | 5 | 6 |

| | | | | |
|-----------|-----------|------------|-------------|-----|
| | 0.00 | 0.00 | 0.38 | |
| ABOGROP | 0 0.00 | 0 0.00 | 1 0.08 | 1 |
| ABOGRSTP | 0 0.00 | 0 0.00 | 1 0.08 | 1 |
| ABOGRSTS | 0 0.00 | 0 0.00 | 3 0.23 | 3 |
| ABOGR TIN | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| ABOGR TLM | 0 0.00 | 0 0.00 | 1 0.08 | 1 |
| ABOGR TMI | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| ABOGR TRE | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| ABOGR TS | 0 0.00 | 0 0.00 | 0 0.00 | 8 |
| ABOGR TSH | 0 0.00 | 0 0.00 | 6 0.45 | 6 |
| ABOGR TST | 0 0.00 | 0 0.00 | 97 7.32 | 101 |
| ABO INC | 2 0.55 | 0 0.00 | 0 0.00 | 7 |
| ABOL MSTN | 0 0.00 | 0 0.00 | 8 0.60 | 8 |
| ABO MICA | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| ABOP | 1 0.28 | 0 0.00 | 7 0.53 | 12 |
| ABOP INC | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| ABOP UNC | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| ABO QRTZP | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| ABO QRTZS | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| ABO RED | 0 0.00 | 16 3.76 | 4 0.30 | 32 |
| ABOS | 1 0.28 | 0 0.00 | 2 0.15 | 3 |
| ABOSH | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| ABOSH S | 0 0.00 | 0 0.00 | 4 0.30 | 4 |
| ABOSH STP | 0 0.00 | 0 0.00 | 1 0.08 | 1 |
| ABOSH STS | 0 0.00 | 0 0.00 | 2 0.15 | 2 |
| ABOST | 0 0.00 | 3 0.71 | 2 0.15 | 67 |
| ABOST BRS | 0 0.00 | 0 0.00 | 0 0.00 | 4 |
| ABOST INC | 0 0.00 | 0 0.00 | 1 0.08 | 6 |
| ABOSTP | 0 0.00 | 0 0.00 | 128 9.65 | 138 |

| | | | | |
|----------|------------|------------|--------------|-----|
| ABOSTFUN | 0 0.00 | 0 0.00 | 2 0.15 | 3 |
| ABOSTRED | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| ABOSTS | 0 0.00 | 1 0.24 | 7 0.53 | 15 |
| ABOSTSHP | 0 0.00 | 0 0.00 | 1 0.08 | 1 |
| ABOSTSHR | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| ABOUIDDE | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| ALTA | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| COLONO | 0 0.00 | 0 0.00 | 0 0.00 | 10 |
| DEPTS | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| IRENE | 0 0.00 | 0 0.00 | 0 0.00 | 5 |
| IRENINC | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| IRENPUNC | 1 0.28 | 0 0.00 | 0 0.00 | 1 |
| JEFF | 0 0.00 | 0 0.00 | 0 0.00 | 6 |
| JEFFA | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| JEFFD | 0 0.00 | 0 0.00 | 0 0.00 | 4 |
| JEFFINC | 0 0.00 | 0 0.00 | 1 0.08 | 2 |
| JEFFS | 0 0.00 | 0 0.00 | 0 0.00 | 2 |
| LAMARLIK | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| LAMLK | 2 0.55 | 0 0.00 | 3 0.23 | 14 |
| LAMLKINC | 0 0.00 | 0 0.00 | 0 0.00 | 3 |
| LMLK | 0 0.00 | 1 0.24 | 0 0.00 | 1 |
| MILLER | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| MISSRED | 0 0.00 | 0 0.00 | 9 0.68 | 25 |
| OCML | 0 0.00 | 0 0.00 | 1 0.08 | 1 |
| ORANGE | 0 0.00 | 0 0.00 | 0 0.00 | 3 |
| ORNGFT | 0 0.00 | 0 0.00 | 1 0.08 | 1 |
| SJ | 0 0.00 | 0 0.00 | 0 0.00 | 2 |
| SJINC | 0 0.00 | 0 0.00 | 0 0.00 | 2 |
| SJF | 20 5.52 | 37 8.71 | 228 17.19 | 874 |

| | | | | |
|----------|--------------|--------------|--------------|------|
| SJPUNC | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| SJS | 24 6.63 | 30 7.06 | 251 18.93 | 733 |
| SM | 8 2.21 | 0 0.00 | 3 0.23 | 18 |
| SMBRS | 2 0.55 | 0 0.00 | 0 0.00 | 2 |
| SMCORD | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| SMINC | 0 0.00 | 0 0.00 | 0 0.00 | 16 |
| SMP | 69 19.06 | 152 35.76 | 109 8.22 | 1127 |
| SMPUNC | 0 0.00 | 0 0.00 | 1 0.08 | 8 |
| SMRED | 0 0.00 | 0 0.00 | 1 0.08 | 15 |
| SMS | 224 61.88 | 106 24.94 | 314 23.68 | 2501 |
| SMSRED | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| WALTINC | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| WALTPUNC | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| Total | 362 | 425 | 1326 | 6124 |

GROUP=FOOD PREPARATION

| ITEM | SITE | | | | Total |
|----------------------|-------------|-------------|------------|-------------|-------|
| Frequency Col Pct | SA261 | SA303 | SA341 | SA342 | |
| GLAS | 3 6.12 | 45 54.88 | 0 0.00 | 2 5.13 | 55 |
| GLASAMB | 0 0.00 | 0 0.00 | 0 0.00 | 1 2.56 | 3 |
| GLASAQUA | 1 2.04 | 0 0.00 | 0 0.00 | 0 0.00 | 2 |
| GLASBLU | 1 2.04 | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| GLASBRN | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| GLASCL | 16 32.65 | 11 13.41 | 3 27.27 | 16 41.03 | 64 |
| GLASDRKG | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 10 |
| GLASPLT | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 8 |
| GLASGRN | 15 30.61 | 4 4.88 | 8 72.73 | 16 41.03 | 82 |
| GLASLAT | 1 2.04 | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| GLASLITG | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 5 |
| GLASLITY | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 1 |

| | | | | | |
|----------|------------|-------------|-----------|-----------|-----|
| GLASOLIV | 9 18.37 | 0 0.00 | 0 0.00 | 1 2.56 | 15 |
| GLASOPRE | 1 2.04 | 1 1.22 | 0 0.00 | 1 2.56 | 3 |
| GLASPAT | 0 0.00 | 14 17.07 | 0 0.00 | 0 0.00 | 14 |
| GLASUID | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 4 |
| GLASYBL | 1 2.04 | 3 3.66 | 0 0.00 | 0 0.00 | 7 |
| MANO? | 1 2.04 | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| METATE | 0 0.00 | 1 1.22 | 0 0.00 | 0 0.00 | 1 |
| NAIL | 0 0.00 | 0 0.00 | 0 0.00 | 2 5.13 | 2 |
| POT | 0 0.00 | 3 3.66 | 0 0.00 | 0 0.00 | 3 |
| Total | 49 | 82 | 11 | 39 | 283 |

GROUP=FOOD PREPARATION

| ITEM | SITE | | | Total |
|----------|------------|-------|------------|-------|
| | Frequency | Col | Pct | |
| GLAS | 0 0.00 | SA351 | 0 0.00 | 55 |
| GLASAME | 0 0.00 | SA364 | 0 0.00 | 3 |
| GLASAQUA | 0 0.00 | SA42A | 1 5.56 | 2 |
| GLASBLU | 0 0.00 | | 0 0.00 | 1 |
| GLASBRN | 1 7.14 | | 0 0.00 | 1 |
| GLASCL | 2 14.29 | | 8 44.44 | 64 |
| GLASDRKG | 0 0.00 | | 0 0.00 | 10 |
| GLASFLT | 0 0.00 | | 0 0.00 | 8 |
| GLASGRN | 5 35.71 | | 9 50.00 | 82 |
| GLASLAT | 0 0.00 | | 0 0.00 | 1 |
| GLASLITG | 0 0.00 | | 0 0.00 | 5 |
| GLASLITY | 0 0.00 | | 0 0.00 | 1 |
| GLASOLIV | 4 28.57 | | 0 0.00 | 15 |
| GLASOPRE | 0 0.00 | | 0 0.00 | 3 |
| GLASPAT | 0 0.00 | | 0 0.00 | 14 |
| GLASUID | 0 0.00 | | 0 0.00 | 4 |
| GLASYBL | 2 14.29 | | 0 0.00 | 7 |

| | | | | |
|--------|------|------|------|-----|
| MANO? | 0 | 0 | 0 | 1 |
| | 0.00 | 0.00 | 0.00 | |
| METATE | 0 | 0 | 0 | 1 |
| | 0.00 | 0.00 | 0.00 | |
| NAIL | 0 | 0 | 0 | 2 |
| | 0.00 | 0.00 | 0.00 | |
| POT | 0 | 0 | 0 | 3 |
| | 0.00 | 0.00 | 0.00 | |
| Total | 14 | 18 | 70 | 283 |

GROUP=ARCHITECTURE

| ITEM | SITE | | | | Total |
|----------|-----------|-------|-------|-------|-------|
| | Frequency | SA261 | SA303 | SA341 | SA342 |
| COTPIN | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | 0.00 | 0.00 | 0.00 | |
| DOORPLAT | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | 0.00 | 0.00 | 0.00 | |
| GLASFLT | 0 | 0 | 0 | 1 | 1 |
| | 0.00 | 0.00 | 0.00 | 2.08 | |
| HEAD | 0 | 0 | 0 | 0 | 6 |
| | 0.00 | 0.00 | 0.00 | 0.00 | |
| HOOK | 0 | 0 | 0 | 0 | 1 |
| | 0.00 | 0.00 | 0.00 | 0.00 | |
| IRTACK | 0 | 0 | 0 | 1 | 1 |
| | 0.00 | 0.00 | 0.00 | 2.08 | |
| NAIL | 114 | 65 | 9 | 36 | 364 |
| | 63.33 | 26.53 | 75.00 | 75.00 | |
| NAILSQ | 0 | 13 | 0 | 0 | 13 |
| | 0.00 | 5.31 | 0.00 | 0.00 | |
| NAILSQUI | 0 | 83 | 0 | 0 | 206 |
| | 0.00 | 33.88 | 0.00 | 0.00 | |
| NAILWR | 25 | 24 | 1 | 7 | 64 |
| | 13.89 | 9.80 | 8.33 | 14.58 | |
| RING | 0 | 0 | 0 | 0 | 1 |
| | 0.00 | 0.00 | 0.00 | 0.00 | |
| SPIKE | 28 | 34 | 2 | 0 | 77 |
| | 15.56 | 13.88 | 16.67 | 0.00 | |
| SPIKESQ | 0 | 6 | 0 | 0 | 6 |
| | 0.00 | 2.45 | 0.00 | 0.00 | |
| SPIKEUID | 0 | 0 | 0 | 2 | 8 |
| | 0.00 | 0.00 | 0.00 | 4.17 | |
| SPIKEWR | 0 | 13 | 0 | 0 | 16 |
| | 0.00 | 5.31 | 0.00 | 0.00 | |
| STAPLE | 0 | 0 | 0 | 0 | 1 |
| | 0.00 | 0.00 | 0.00 | 0.00 | |
| TACK | 7 | 7 | 0 | 1 | 19 |
| | 3.89 | 2.86 | 0.00 | 2.08 | |
| TACKWR | 6 | 0 | 0 | 0 | 6 |
| | 3.33 | 0.00 | 0.00 | 0.00 | |
| WIREBR | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | 0.00 | 0.00 | 0.00 | |
| Total | 180 | 245 | 12 | 48 | 790 |

GROUP=ARCHITECTURE

| ITEM | SITE | | | Total |
|------|-----------|-------|-------|-------|
| | Frequency | SA351 | SA364 | SA42A |
| | Col Pct | | | |

| | | | | |
|----------|-------------|-------------|--------------|-----|
| COTPIN | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| DOORPLAT | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| GLASFLT | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| HEAD | 0 0.00 | 0 0.00 | 6 2.52 | 6 |
| HOOK | 0 0.00 | 0 0.00 | 1 0.42 | 1 |
| IRTACK | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| NAIL | 24 75.00 | 32 91.43 | 84 35.29 | 364 |
| NAILSQ | 0 0.00 | 0 0.00 | 0 0.00 | 13 |
| NAILSQUI | 0 0.00 | 0 0.00 | 123 51.68 | 206 |
| NAILWR | 1 3.12 | 1 2.86 | 5 2.10 | 64 |
| RING | 0 0.00 | 0 0.00 | 1 0.42 | 1 |
| SPIKE | 4 12.50 | 2 5.71 | 7 2.94 | 77 |
| SPIKESQ | 0 0.00 | 0 0.00 | 0 0.00 | 6 |
| SPIKEUID | 0 0.00 | 0 0.00 | 6 2.52 | 8 |
| SPIKEWR | 0 0.00 | 0 0.00 | 3 1.26 | 16 |
| STAPLE | 0 0.00 | 0 0.00 | 1 0.42 | 1 |
| TACK | 3 9.38 | 0 0.00 | 1 0.42 | 19 |
| TACKWR | 0 0.00 | 0 0.00 | 0 0.00 | 6 |
| WIREBR | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| Total | 32 | 35 | 238 | 790 |

GROUP=WEAPONRY

| ITEM | SITE | | | | | |
|-----------|-------------|------------|-------------|-------------|-------------|-------|
| Frequency | SA261 | SA303 | SA341 | SA342 | SA42A | Total |
| FLNTGUN | 0 0.00 | 1 33.33 | 1 100.00 | 0 0.00 | 0 0.00 | 2 |
| MUSKBAL | 1 100.00 | 0 0.00 | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| PPOINT | 0 0.00 | 1 33.33 | 0 0.00 | 0 0.00 | 0 0.00 | 1 |
| SHOT | 0 0.00 | 1 33.33 | 0 0.00 | 1 100.00 | 1 100.00 | 3 |
| Total | 1 | 3 | 1 | 1 | 1 | 7 |

GROUP=CLOTHING

ITEM SITE
Frequency

| Col Pct | SA261 | SA303 | SA341 | SA342 | Total |
|---------|------------|------------|--------|------------|-------|
| AGLET | 4 66.67 | 5 21.74 | 0 . | 0 0.00 | 10 |
| AGLET? | 0 0.00 | 0 0.00 | 0 . | 0 0.00 | 0 |
| BORDO | 0 0.00 | 0 0.00 | 0 . | 0 0.00 | 1 |
| BUCKLE | 0 0.00 | 2 8.70 | 0 . | 0 0.00 | 2 |
| BUT | 1 16.67 | 3 13.04 | 0 . | 0 0.00 | 7 |
| BUTBAK | 0 0.00 | 0 0.00 | 0 . | 0 0.00 | 1 |
| BUTBLNK | 0 0.00 | 0 0.00 | 0 . | 0 0.00 | 41 |
| EYE | 0 0.00 | 0 0.00 | 0 . | 0 0.00 | 0 |
| EYEHOOK | 0 0.00 | 0 0.00 | 0 . | 0 0.00 | 1 |
| GROM | 0 0.00 | 0 0.00 | 0 . | 0 0.00 | 1 |
| NEEDLE | 0 0.00 | 1 4.35 | 0 . | 0 0.00 | 1 |
| PIN | 1 16.67 | 5 21.74 | 0 . | 1 50.00 | 27 |
| PINER | 0 0.00 | 0 0.00 | 0 . | 1 50.00 | 3 |
| PINWW | 0 0.00 | 6 26.09 | 0 . | 0 0.00 | 6 |
| SHOE | 0 0.00 | 1 4.35 | 0 . | 0 0.00 | 1 |
| THUMB | 0 0.00 | 0 0.00 | 0 . | 0 0.00 | 0 |
| WIRE | 0 0.00 | 0 0.00 | 0 . | 0 0.00 | 2 |
| Total | 6 | 23 | 0 | 2 | 104 |

GROUP=CLOTHING

| ITEM Frequency Col Pct | SITE SA351 | SA364 | SA42A | Total |
|------------------------------|---------------|------------|-------------|-------|
| AGLET | 0 0.00 | 1 50.00 | 0 0.00 | 10 |
| AGLET? | 0 0.00 | 0 0.00 | 0 0.00 | 0 |
| BORDO | 0 0.00 | 0 0.00 | 1 1.45 | 1 |
| BUCKLE | 0 0.00 | 0 0.00 | 0 0.00 | 2 |
| BUT | 0 0.00 | 0 0.00 | 3 4.35 | 7 |
| BUTBAK | 0 0.00 | 0 0.00 | 1 1.45 | 1 |
| BUTBLNK | 0 0.00 | 0 0.00 | 41 59.42 | 41 |
| EYE | 0 | 0 | 0 | 0 |

| | | | | |
|---------|--------|-------|-------|-----|
| | 0.00 | 0.00 | 0.00 | |
| BYEHOOK | 0 | 1 | 0 | 1 |
| | 0.00 | 50.00 | 0.00 | |
| GROM | 0 | 0 | 1 | 1 |
| | 0.00 | 0.00 | 1.45 | |
| NEEDLE | 0 | 0 | 0 | 1 |
| | 0.00 | 0.00 | 0.00 | |
| PIN | 0 | 0 | 20 | 27 |
| | 0.00 | 0.00 | 28.99 | |
| PINER | 2 | 0 | 0 | 3 |
| | 100.00 | 0.00 | 0.00 | |
| PINWW | 0 | 0 | 0 | 6 |
| | 0.00 | 0.00 | 0.00 | |
| SHOE | 0 | 0 | 0 | 1 |
| | 0.00 | 0.00 | 0.00 | |
| THIME | 0 | 0 | 0 | 0 |
| | 0.00 | 0.00 | 0.00 | |
| WIRE | 0 | 0 | 2 | 2 |
| | 0.00 | 0.00 | 2.90 | |
| Total | 2 | 2 | 69 | 104 |

GROUP=PERSONAL

| ITEM | SITE | | | | | | |
|-----------|-------|-------|-------|-------|--------|-------|-------|
| Frequency | | | | | | | |
| Col Pct | SA261 | SA303 | SA342 | SA351 | SA364 | SA42A | Total |
| BEAD | 0 | 3 | 0 | 0 | 0 | 2 | 5 |
| | 0.00 | 18.75 | 0.00 | 0.00 | 0.00 | 13.33 | |
| BEADBONE | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| | 0.00 | 0.00 | 0.00 | 50.00 | 0.00 | 0.00 | |
| BEADSEED | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 6.67 | |
| BEADSHL | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| | 20.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| BEADUID | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 6.67 | |
| BEADWW | 1 | 0 | 0 | 0 | 0 | 1 | 2 |
| | 20.00 | 0.00 | 0.00 | 0.00 | 0.00 | 6.67 | |
| BARRING | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| | 0.00 | 6.25 | 0.00 | 0.00 | 0.00 | 0.00 | |
| FANSLAT | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| | 0.00 | 6.25 | 0.00 | 0.00 | 0.00 | 0.00 | |
| MEDALBR | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| | 20.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| PIPE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| PIPEB | 0 | 1 | 2 | 0 | 5 | 4 | 12 |
| | 0.00 | 6.25 | 40.00 | 0.00 | 100.00 | 26.67 | |
| PIPES | 1 | 10 | 3 | 1 | 0 | 2 | 17 |
| | 20.00 | 62.50 | 60.00 | 50.00 | 0.00 | 13.33 | |
| PIPES12 | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 13.33 | |
| PIPES4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| PIPES5 | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 13.33 | |
| PIPES7 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| | 20.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| CHERT | 0 | 0 | 0 | 0 | 0 | 1 | 1 |

| | | | | | | | |
|--------|--------|-------|--------|-------|---|-------|----|
| | 0.00 | 0.00 | 0.00 | 0.00 | . | 33.00 | |
| CORE | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| | 0.00 | 33.33 | 0.00 | 0.00 | . | 0.00 | |
| DEBIT | 2 | 0 | 1 | 0 | 0 | 0 | 3 |
| | 100.00 | 0.00 | 100.00 | 0.00 | . | 0.00 | |
| WEIGHT | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| | 0.00 | 0.00 | 0.00 | 0.00 | . | 33.00 | |
| FLINT | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| | 0.00 | 0.00 | 0.00 | 0.00 | . | 33.00 | |
| HASP | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| | 0.00 | 0.00 | 0.00 | 33.33 | . | 0.00 | |
| HOOKIR | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| | 0.00 | 33.33 | 0.00 | 0.00 | . | 0.00 | |
| HOOP | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| | 0.00 | 0.00 | 0.00 | 66.67 | . | 0.00 | |
| ROPE | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| | 0.00 | 33.33 | 0.00 | 0.00 | . | 0.00 | |
| SPRUE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | 0.00 | 0.00 | 0.00 | . | 0.00 | |
| STRIKO | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0.00 | 0.00 | 0.00 | 0.00 | . | 0.00 | |
| Total | 2 | 3 | 1 | 3 | 0 | 3 | 12 |

FURNITURE HARDWARE

| ITEM | SITE | | | | |
|-----------|--------|--------|-------|--------|-------|
| Frequency | SA261 | SA303 | SA341 | SA42A | Total |
| Col Pct | | | | | |
| BRTACK | 0 | 0 | 0 | 2 | 2 |
| | 0.00 | 0.00 | . | 100.00 | |
| HASP | 1 | 0 | 0 | 0 | 1 |
| | 100.00 | 0.00 | . | 0.00 | |
| TACK | 0 | 10 | 0 | 0 | 10 |
| | 0.00 | 100.00 | . | 0.00 | |
| Total | 1 | 10 | 0 | 2 | 13 |

GROUP=TOOLS

| ITEM | SITE | | |
|-----------|--------|-------|-------|
| Frequency | SA261 | SA42A | Total |
| Col Pct | | | |
| CORE | 0 | 1 | 1 |
| | 0.00 | 50.00 | |
| KNIF | 1 | 0 | 1 |
| | 100.00 | 0.00 | |
| SPEAR | 0 | 1 | 1 |
| | 0.00 | 50.00 | |
| Total | 1 | 2 | 3 |

GROUP=TOYS

| ITEM | SITE | | |
|-----------|--------|--------|-------|
| Frequency | SA261 | SA342 | Total |
| Col Pct | | | |
| DICE | 0 | 0 | 0 |
| | 0.00 | 0.00 | |
| GAMDIS | 1 | 1 | 2 |
| | 100.00 | 100.00 | |
| Total | 1 | 1 | 2 |

GROUP=RELIGIOUS

ITEM SITE
Frequency|

| Col Pct | SA261 | Total |
|---------|--------|-------|
| BEADROS | 1 | 1 |
| | 100.00 | |
| Total | 1 | 1 |

APPENDIX 4
GLOSSARY OF SPANISH TERMS

Audiencia. The highest regional court of appeals in Spanish and Spanish colonial administration.

Camino Real. The name of the main road in La Florida that connected St. Augustine with Apalachee province.

Castizo. A person who was the result of a union between a man who was 7/8 European and a woman who was 1/8 Indian

Cédula. A written royal order having the force of law.

Cimarrón. A runaway African slave.

Cofradía. A religious lay organization or confraternity.

Criollo. A person of Spanish descent born in Spanish America.

Días Festivos. Feast days or holidays, often commemorating the birthday of a saint.

Ejido. A communal pasture and plot.

Encomienda. An allotment of tribute or services from a Indian community in the Spanish colonies.

Flota. The Spanish fleet of vessels that sailed between Mexico and Spain.

Hacienda. In La Florida, usually refers to a cattle ranch.

Indios de Servicios. Indian workers who performed non-agricultural labor.

Indios de Carga. Indian workers who functioned as burden bearers.

Indios de Cava. Indian workers who performed agricultural labor.

Indios de Fábricas. Indian workers who labored on public projects.

Mermas. Refers to spoiled provisions or goods bound for the presidio.

Mestizo. A person of mixed European and Indian blood.

Mulatto. A person of mixed European and African blood.

Obrajes. Textile workshops.

Pardo. A person of color who was the result of a union between a white man and a black woman.

Patronato Real. The Castillian Crown's responsibility for support of the Church.

Peninsulares. A person of Spanish descent born in Spain.

Peso. A Spanish colonial monetary unit.

Plaza. A paid space held by the a member of the garrison; the place of military assignment.

Presidio. A military outpost.

Repartimiento. Refers to the rotating labor drafts required of the Native Americans.

Rescate. A form of illegal trade in the Indies between Indians and Spaniards whereby goods were exchanged in barter or ransom.

Situadista. Agent of the governor who collected the annual subsidy.

Situado. The annual subsidy provided to the presidio by the Crown of Spain.

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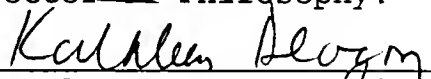
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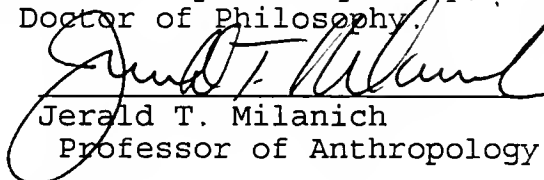
BIOGRAPHICAL SKETCH

Kathleen Hoffman was born in Harrisburg, Pennsylvania, and grew up in the Philadelphia area. She received her B.A. in anthropology with a minor in history from West Chester University of Pennsylvania. Her M.A., which focused on the same areas of specialization, was received from Northern Arizona University. She has worked on historic sites in the mid-Atlantic states, the Southwest, the Southeast, and the Caribbean.

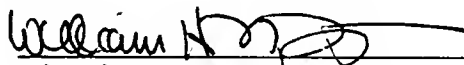
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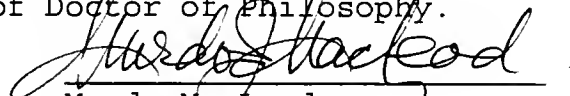
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